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The Architects' JOURNAL for December 11, 1958

# THE ARCHITECTS' JOURNAL

tandard contents

*every issue does not necessarily contain all these contents, but they are the regular features which continually recur*

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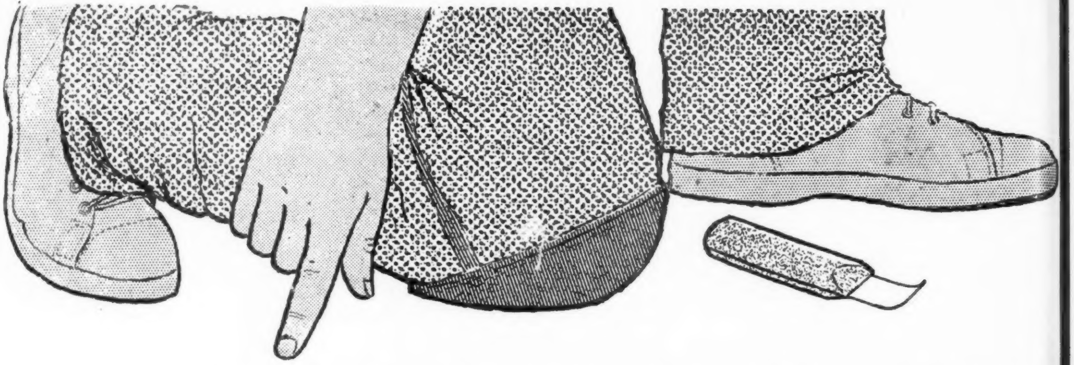
★ A glossary of abbreviations of Government Departments and Societies and Committees of all kinds, together with their full address and telephone numbers. The glossary is published in two parts—A to Ii one week, Il to Z the next. In all cases where the town is not mentioned the word LONDON is implicit in the address.

| | | |
|---|---|---|
| AA | Architectural Association, 34/6, Bedford Square, W.C.1. | Museum 0974 |
| AAI | Association of Art Institutions. Secy.: W. L. Stevenson, College of Art, Hope Street, Liverpool 1. | Royal 1826 |
| ABS | Architects' Benevolent Society. 66, Portland Place, W.1. | Langham 5533 |
| ABT | Association of Building Technicians. 1, Ashley Place, S.W.1. | Victoria 0447-8 |
| ACGB | Arts Council of Great Britain. 4, St. James's Square, S.W.1. | Whitehall 9737 |
| ADA | Aluminium Development Association. 33, Grosvenor Street, W.1. | Mayfair 7501/8 |
| ARCUK | Architects' Registration Council. 68, Portland Place, W.1. | Langham 5861 |
| BAE | Board of Architectural Education. 66, Portland Place, W.1. | Langham 5721 |
| BC | Building Centre. 26, Store Street, Tottenham Court Road, W.C.1. | Museum 5400 |
| BCC | British Colour Council. 13, Portman Square, W.1. | Welbeck 4185 |
| BCCF | British Cast Concrete Federation. 105, Uxbridge Road, Ealing, W.5. | Ealing 9621 |
| BCIRA | British Cast Iron Research Association. Alvechurch, Birmingham. | Redditch 716 |
| BDA | British Door Association. 10, The Boltons, S.W.10. | Fremantle 8494 |
| BEDA | British Electrical Development Association. 2, Savoy Hill, W.C.2. | Temple Bar 9434 |
| BIA | British Ironfounders' Association. 145, Vincent Street, Glasgow, C.2. | Glasgow Central 2891 |
| BID | Building Industries Distributors. 52, High Holborn, W.C.1. | Chancery 7772 |
| BINC | Building Industries National Council. 11, Weymouth Street, W.1. | Langham 2785 |
| BOT | Board of Trade. Whitehall Gardens, Horseguards Avenue, Whitehall, S.W.1. | Trafalgar 8855 |
| BRS | Building Research Station. Bucknalls Lane, Watford. | Garston 4040 |
| BSA | Building Societies Association. 14, Park Street, W.1. | Mayfair 0515 |
| BSI | British Standards Institution. British Standards House, 2, Park St.,W.1. | Mayfair 9000 |
| BTE | Building Trades Exhibition. 32, Millbank, S.W.1. | Tate Gallery 8134 |
| CABAS | City and Borough Architects Society. C/o S. A. G. Cook, A.R.I.B.A., Borough Architect and Director of Housing, Town Hall, High Holborn, W.C.1. | Holborn 3411 |
| CAS | County Architects' Society. C/o S. Vincent Goodman, F.R.I.B.A., Shire Hall, Bedford. | Bedford 67444 |
| CCA | Cement and Concrete Association. 52, Grosvenor Gardens, S.W.1. | Belgravia 6661 |
| CDA | Copper Development Association. 55, South Audley Street, W.1. | Grosvenor 8811 |
| COID | Council of Industrial Design. 28, Haymarket, S.W.1. | Trafalgar 8000 |
| CPRE | Council for the Preservation of Rural England. 4, Hobart Place, S.W.1. | Sloane 4280 |
| CUC | Coal Utilization Council. 3, Upper Belgrave Street, S.W.1. | Sloane 9116 |
| CVE | Council for Visual Education. 13, Suffolk Street, Haymarket, S.W.1. | Reading 72255 |
| DIA | Design and Industries Association. 13, Suffolk Street, S.W.1. | Whitehall 0540 |
| EJMA | English Joinery Manufacturers' Association (Incorporated). Sackville House, 40, Piccadilly, W.1. | Regent 4448 |
| EPNS | English Place-Name Society. 7, Selwyn Gardens, Cambridge. | |
| FAS | Faculty of Architects and Surveyors. 68, Gloucester Place, W.1. | Welbeck 9966 |
| FASS | Federation of Associations of Specialists and Sub-Contractors, 14, Bryanston Street, W.1. | Welbeck 1781 |
| FBBDO | Fibre Building Board Development Organization Ltd. (Fidor), Stafford House, Norfolk Street, W.C.2. | Covent Garden 3008 |
| FBI | Federation of British Industries. 21, Tothill Street, S.W.1. | Whitehall 6711 |
| FC | Forestry Commission. 25, Savile Row, W.1. | Regent 0221 |
| FCMI | Federation of Coated Macadam Industries. 37, Chester Square, S.W.1. | Sloane 1002 |
| FDMA | The Flush Door Manufacturers Association Ltd. Trowell, Nottingham. | Ilkeston 623 |
| FLD | Friends of the Lake District. Pennington House, nr. Ulverston, Lancs. | Ulverston 201 |
| FMB | Federation of Master Builders. 33, John Street, W.C.1. | Tel.: Chancery 7583 (6 lines) |
| FPC | The Federation of Painting Contractors, St. Stephen's House, S.W.1. | Whitehall 3902 |
| FRHB | Federation of Registered House Builders. 82, New Cavendish Street, W.1. | Langham 4341 |
| GPDA | Gypsum Plasterboard Development Association. 11, Ironmonger Lane, E.C.2. | Monarch 8888 |
| GC | Gas Council. 1, Grosvenor Place, S.W.1. | Sloane 4554 |
| GG | Georgian Group. 2, Chester Street, S.W.1. | Belgravia 3081 |
| HC | Housing Centre. 13, Suffolk Street, Pall Mall, S.W.1. | Whitehall 2881 |
| IAAS | Incorporated Association of Architects and Surveyors. 29, Belgrave Square, S.W.1. | Belgravia 3755 |
| ICA | Institute of Contemporary Arts. 17-18, Dover Street, Piccadilly, W.1. | Grosvenor 6186 |
| ICE | Institution of Civil Engineers. 1, Great George Street, S.W.1 | Whitehall 4577 |
| IEE | Institution of Electrical Engineers. Savoy Place, Victoria Embankment, W.C.2. | Temple Bar 7676 |
| IES | Illuminating Engineering Society. 32, Victoria Street, S.W.1. | Abbey 5215 |
| IGE | Institution of Gas Engineers. 17, Grosvenor Crescent, S.W.1. | Sloane 8266 |
| IHVE | Institution of Heating and Ventilating Engineers. 49, Cadogan Square. | Sloane 1601/3158 |
| IIBDID | Incorporated Institute of British Decorators and Interior Designers. 100, Park Street, Grosvenor Square, W.1. | Mayfair 7086 |



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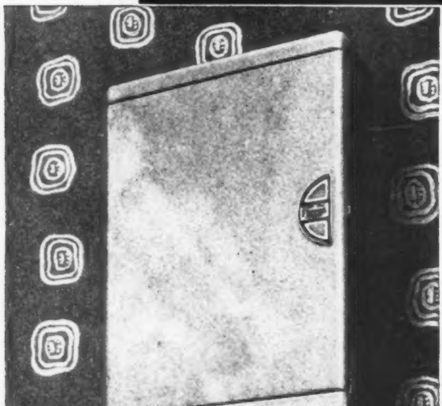

All boards are equipped with Aeroflex Energy Limiting High Breaking Capacity rewireable Cartridge fuse-links and where an isolating switch is required the units can be supplied in pairs as shown in the illustration (left). Cabinet Style Boards have exteriors which are designed to be harmonious in almost any surroundings.

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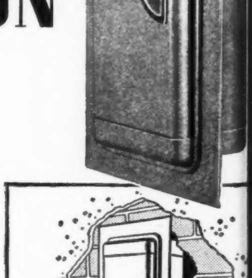

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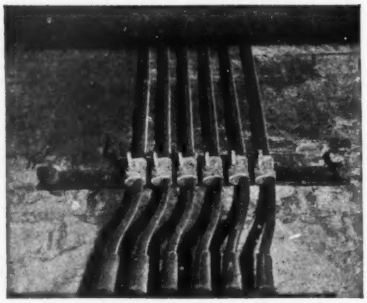

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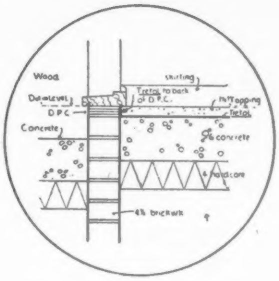

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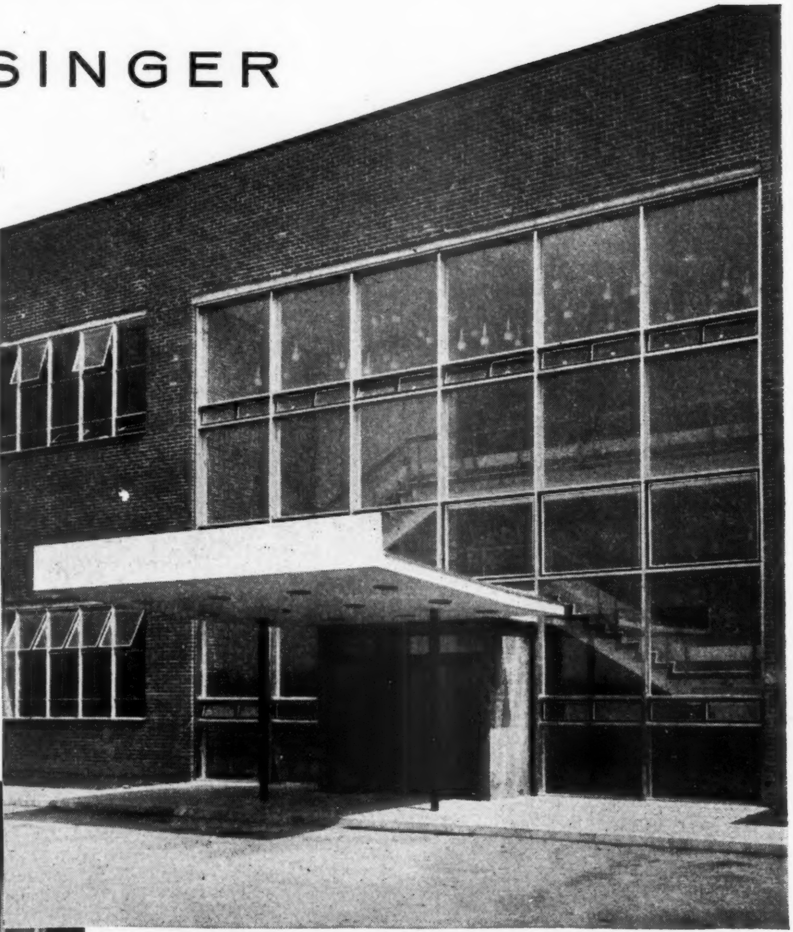

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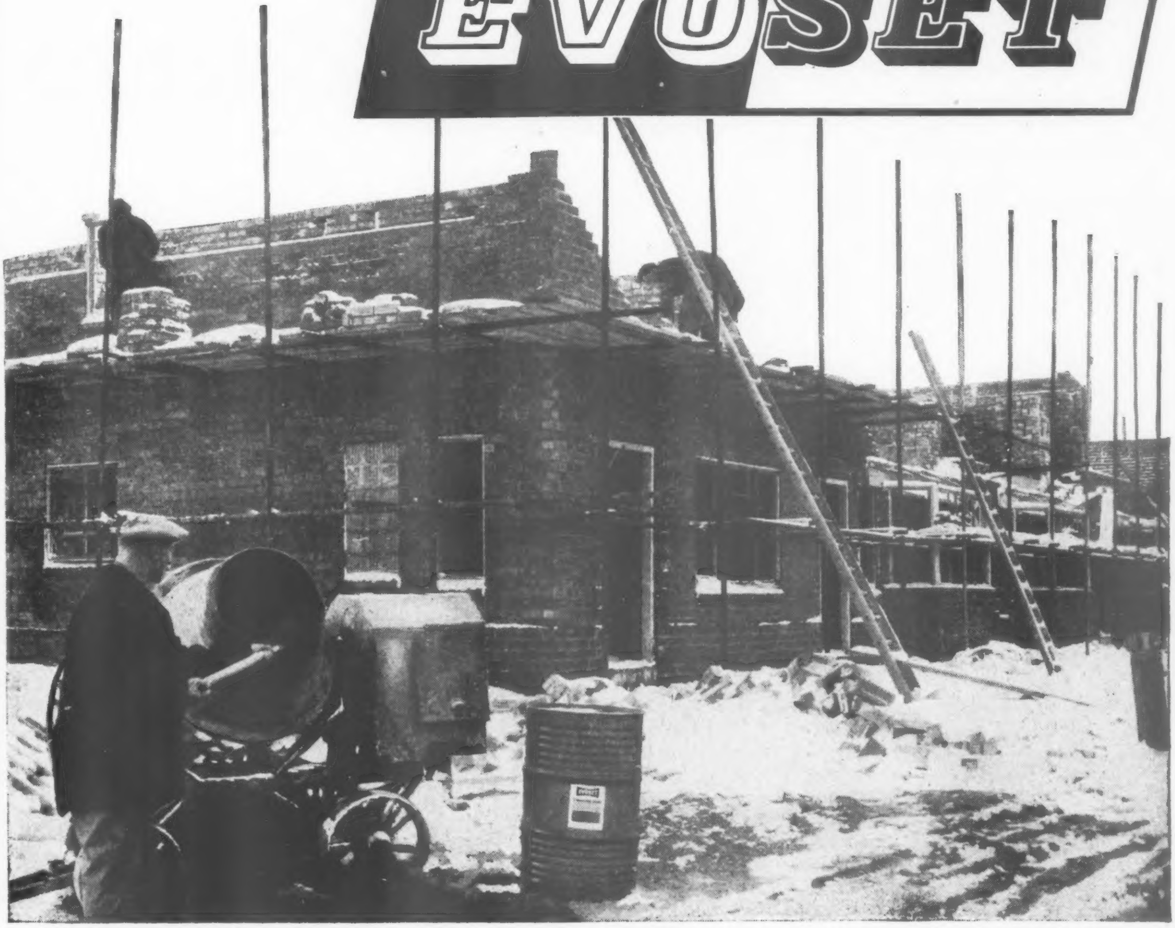

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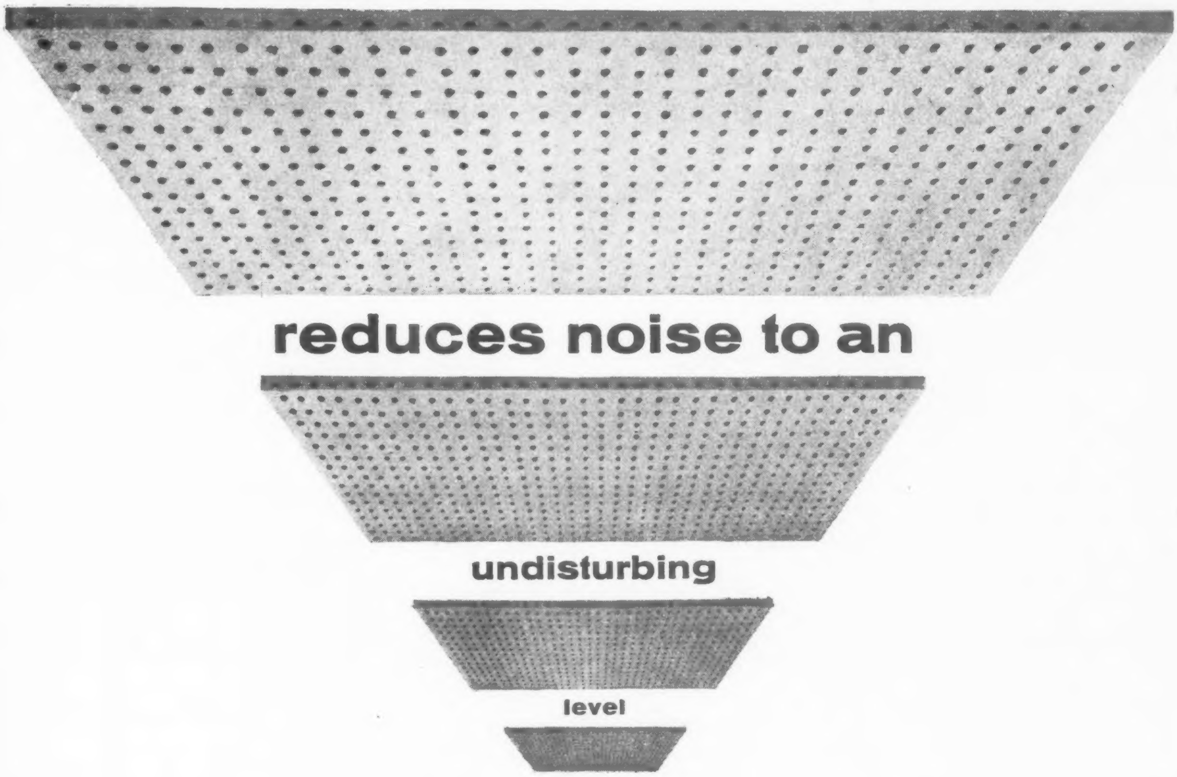

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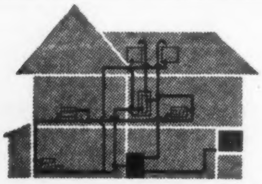

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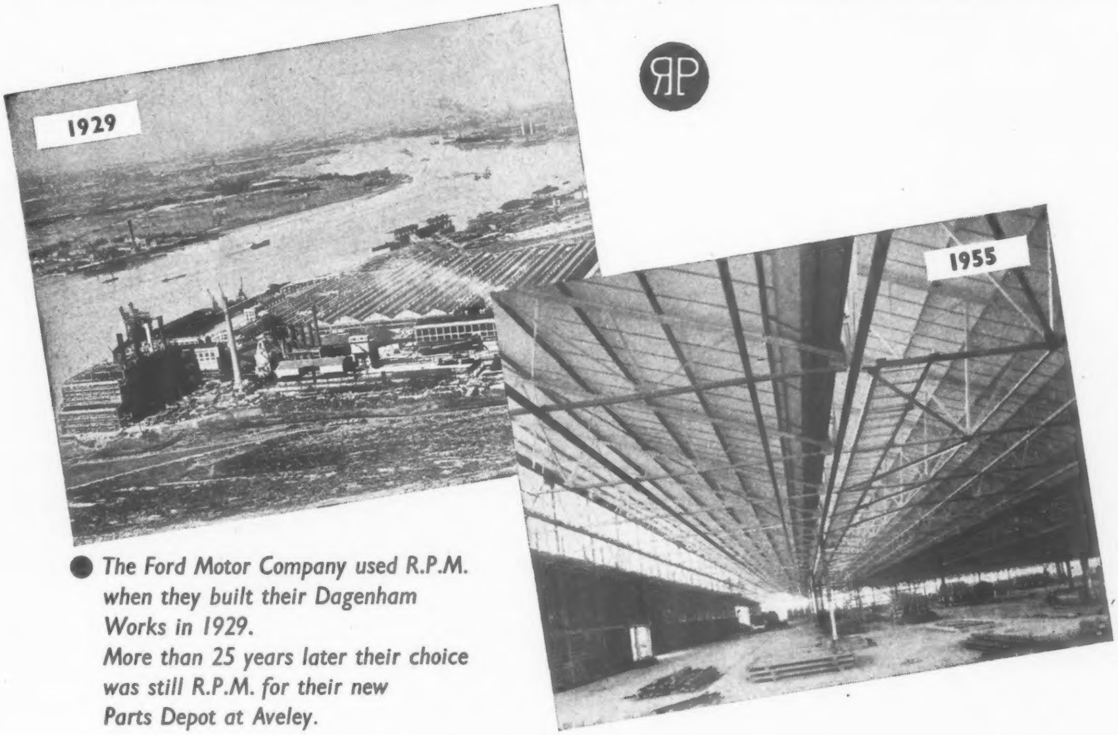

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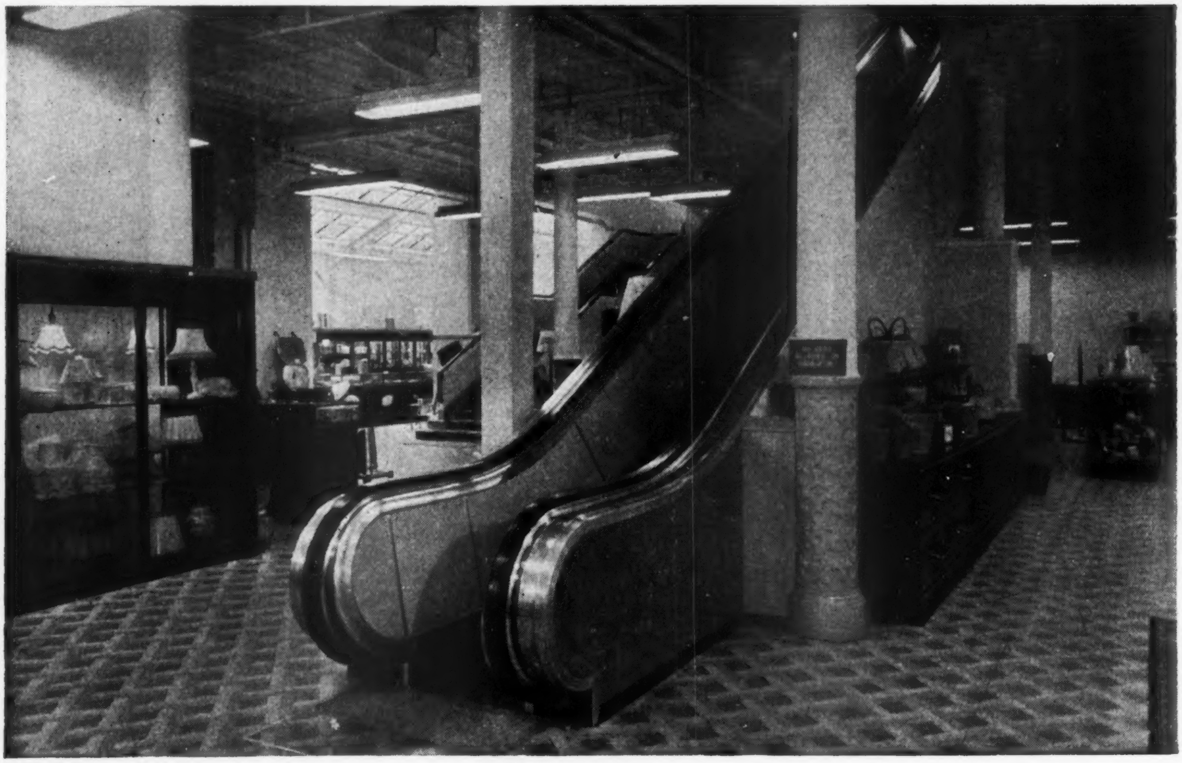

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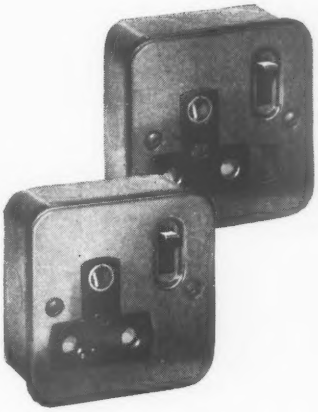

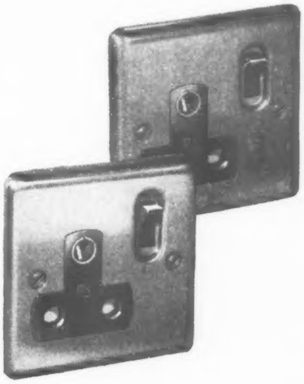

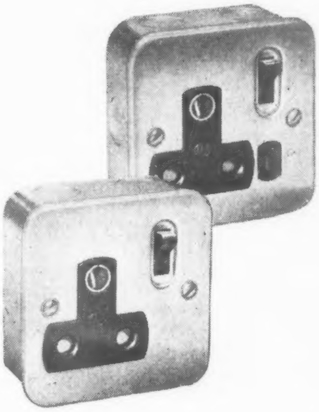

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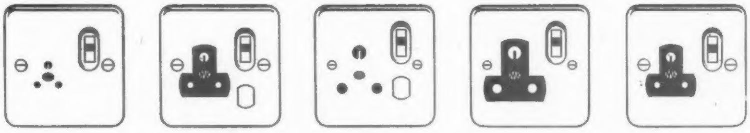

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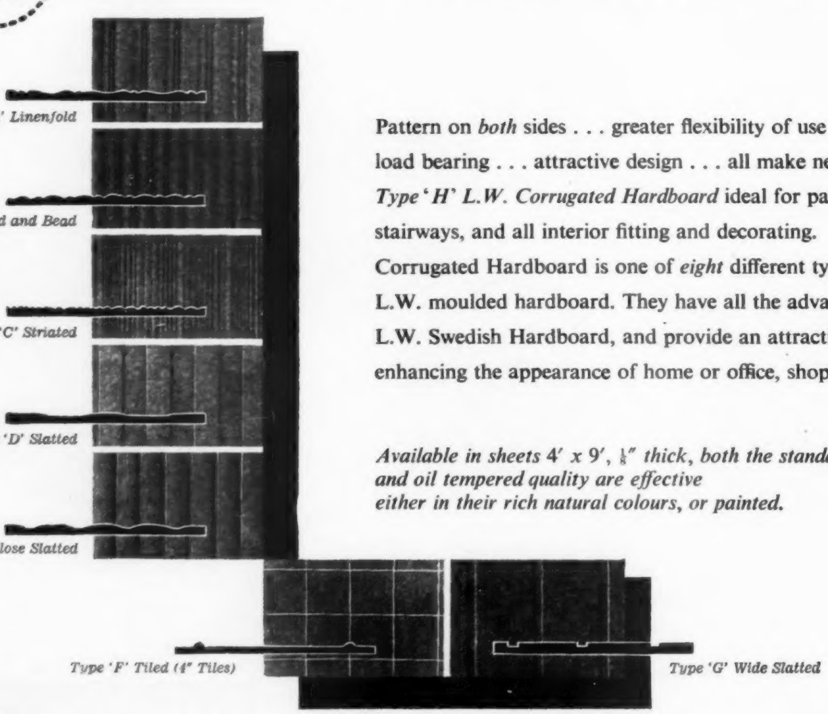

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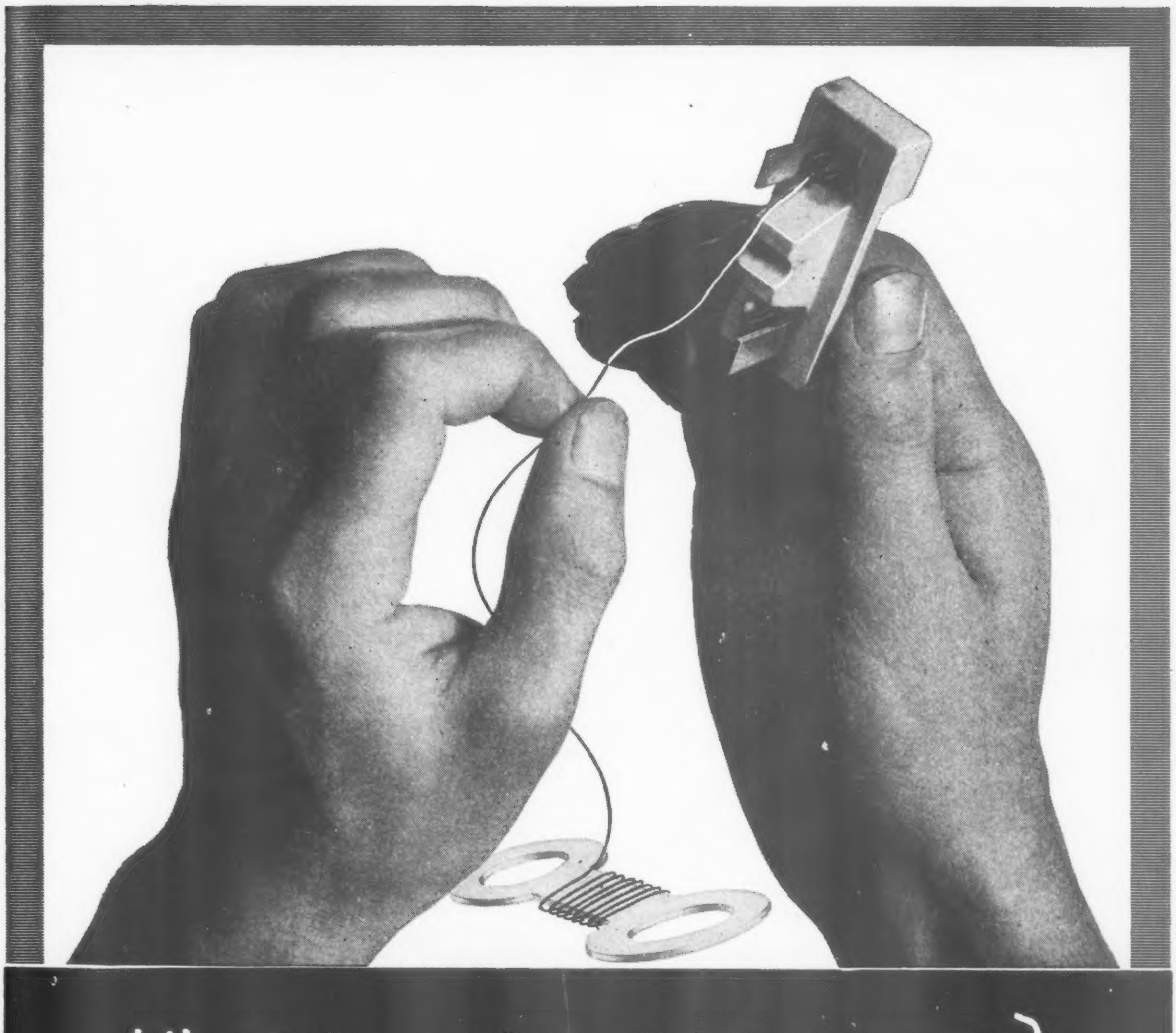


# What is a piece of wire worth?

A copper or two? Yet how much we rely on wire when through it flows a stream of electrical power. In that respect, it's very like Wednesbury Copper Tubes. Here again is a product so infallible that we can install it, and forget about it. It will go on carrying vital water supplies year in, year out, without even the occasional reminder of its presence that a piece of fuse wire gives when a fuse is blown. Thank goodness for the quality of Wednesbury Tube.

**choose WEDNESBURY TUBE**

*Obtainable from your local stockist or builders' merchant*

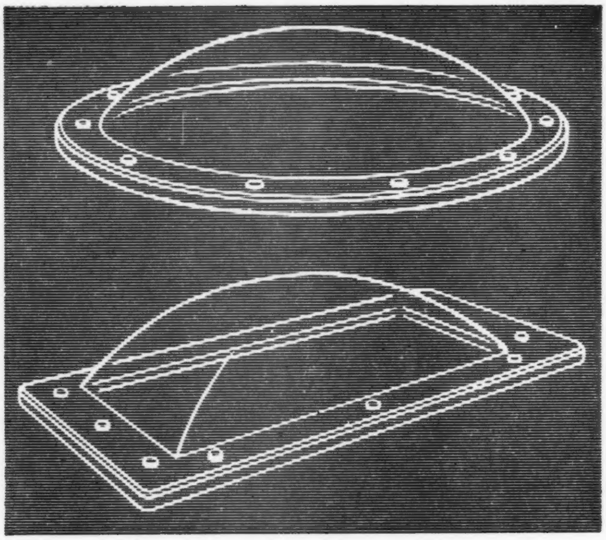
THE WEDNESBURY TUBE CO. LTD., BILSTON, STAFFS.

Associated Company, Glynn Bros. Ltd, London and Manchester

# "Cordar" Roof Lights

(PATENTS PENDING)

SUPPLIERS OF SINGLE AND
DOUBLE SKINNED PERSPEX
DOMED ROOF LIGHTS PROVIDE
THE ANSWER TO YOUR LIGHT PROBLEM



***Hermetically sealed***

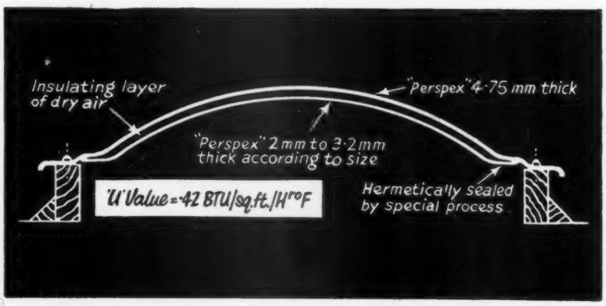
***double-skin dome***

***for maximum light***

***and increased***

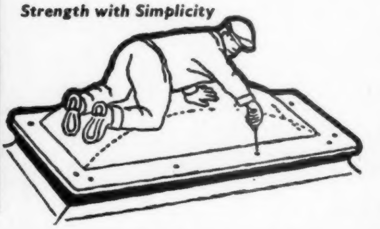
***thermal efficiency***

'U' Value = ·42 BTU/Sq Ft/Hr°F


Insulating layer of dry air
"Perspex" 4·75 mm thick
"Perspex" 2 mm to 3·2 mm thick according to size
'U' Value = ·42 BTU/sq.ft./Hr°F
Hermetically sealed by special process

*CORDAR Roof Lights are manufactured from TRANSPARENT PERSPEX 4.75 mm. thick, as produced by the I.C.I. Ltd. This tough and durable material, which does* not *discolour, makes it ideal for the purpose for which we have adopted it — namely DESIGNED DAYLIGHT*

**Strength with Simplicity**



1. **The only "Perspex" roof light offering insulating value**
2. **Eliminates condensation**
3. **Featherweight load**
4. **Simple fixings**
5. **No maintenance problems**
6. **92% transference of light**
7. **Non-splintering**

*Also available in Single Skin Domes · Standard Shapes: Square, Rectangular and Circular*

**CORDAR ROOF LIGHTS**

*(PATENTS PENDING)*

**34 DEAN STREET · NEWCASTLE UPON TYNE**

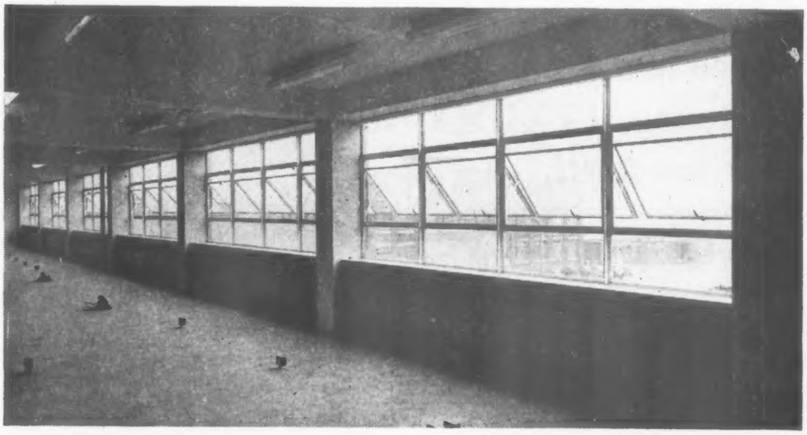
✻ **WRITE TODAY** *for details and illustrated literature on this unique development in light transmission*

P1751

# HEATING *the* MODERN OFFICE

Ten-storey office building for I.C.I. Ltd., Metals Division, Birmingham

* The considerable height and glass area of this building called for special care in designing the heating system, which resulted in the combined window and heating unit illustrated below. No pipes or radiators project into the room to form dirt pockets. Partitions can be erected anywhere without affecting heat distribution. Results are outstanding in appearance, performance and convenience.



* *Extract from Publication No. 348, copies of which will gladly be sent gratis, on application to*

# HOPE'S HEATING & ENGINEERING LTD

*Smethwick, Birmingham & 16 Berners Street, London, W.1*
*Branch Offices at Leeds, Cardiff & Hull*

# Rough passages...

**Some walls—like some people—invite rough treatment by virtue of their position. Some, likewise, get plastered and some do not...**

**We have in mind particularly those landing, stairway and passage walls in schools, cinemas, flat and office blocks—which can look like 'the ruins that Cromwell knocked about a bit' within weeks of opening day.**

**For such walls we have developed TEXIDEC, for producing attractive relief or textured finishes that will stand up to even the roughest juvenile traffic. Where plastering is eliminated and a finish is required for wood-float rendering, TEXIDEC very nearly specifies itself.**

*TEXIDEC, a development of our standard Emulsion Coating, is extremely economical by comparison with other textured finishes of comparable durability. We will gladly send sample panels and full details on request...*

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TEXTURE PAINT

From our earliest days, when we invented Duresco—the first and still foremost oil-bound water paint, we have studied the problems presented by new methods and materials and the need for a continuous development of decorative and protective coatings to keep pace. Our solution of these problems has produced a whole series of specialities: SILCOLAC, which—by blending the best of traditional materials with the very latest synthetic resins—provides a porcelain-like finish of intense durability; DURESCO EMULSION COATING a polyvinyl acetate emulsion paint with extraordinary opacity; RAPICOTE an easy brushing wall enamel specifically designed for such surfaces as factory interiors; TWINCOTE the universal wall primer undercoat which is alkali resistant and possesses great hiding power. And many more...

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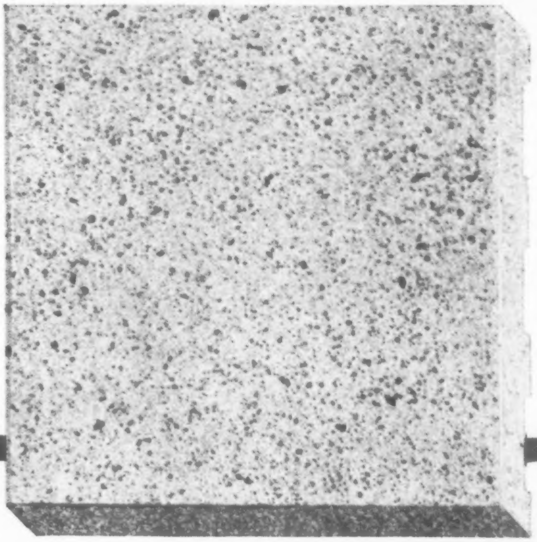
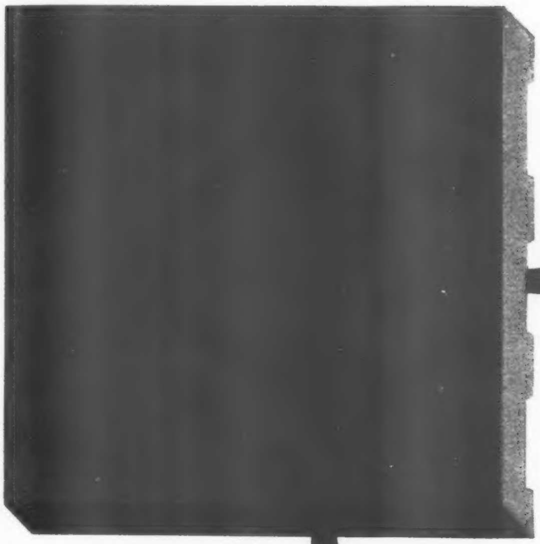


DORSET RED



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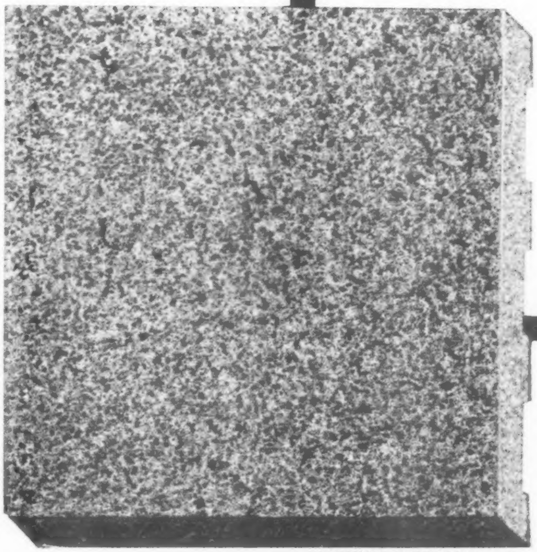
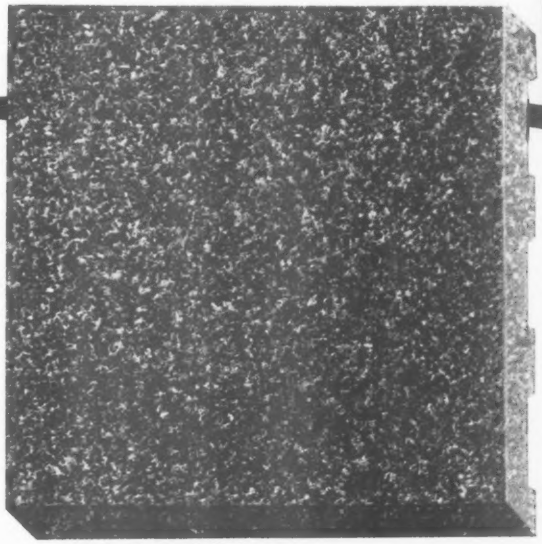
Ceramic Tiles of the Carter Dorset Range are made from the famous Dorset clay, which is renowned throughout the world for its purity and toughness. New production techniques have recently been installed which process this clay into very fine particles, giving the finished tiles high density and uniformity in size and shade.

*Samples of these tiles will gladly be sent on request*



DORSET ROCKFACE



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**CARTER TILES LIMITED**
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*Ease of Maintenance......*

*Berkshire Education Authority—Ellingham School, Maidenhead*

*Photo by courtesy of Messrs. Floor Treatments Ltd.*

*with* BRITISH HARDWOOD FLOORS

Economy of maintenance is a vital factor in the superiority o hardwood over other types of flooring. In many cases the cost of maintaining a hardwood floor can be as low as *one quarter* of the outlay on other types.

Even with the absolute minimum amount of attention, a hardwood floor will retain its appearance at all times, whether in schools, hospitals, offices, factories or private dwellings.

Such long-term economy is a very good reason for specifying British hardwood floors—and in the long run they are the *only* floors that will last throughout the life of the building.

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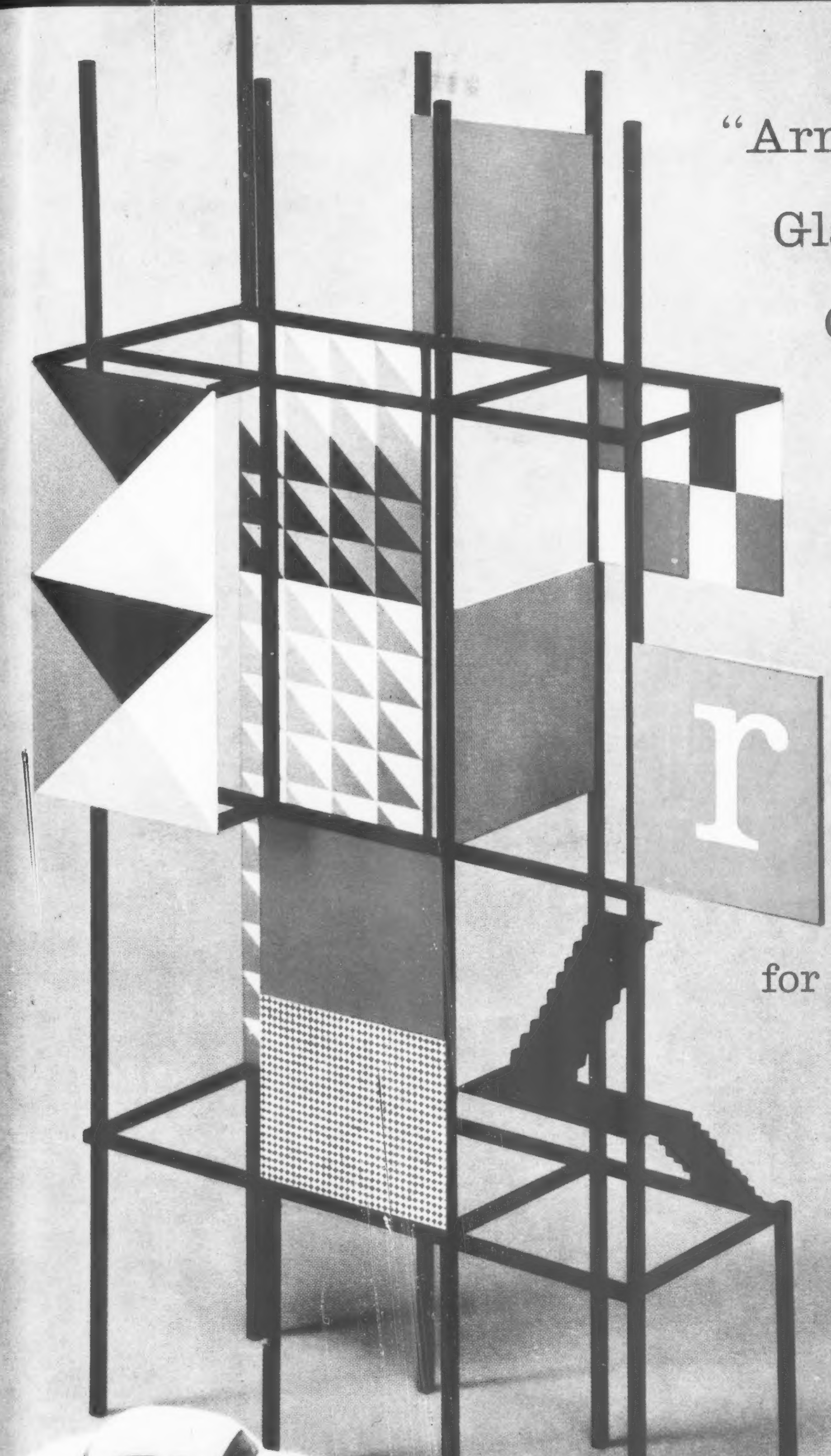

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Glass
Cladding

for versatility
and richness
in pattern
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Custom-made 'ARMOURCLAD' glass panels give new freedom to the architect and designer.
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BRITISH GLASS PB

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New Decorplast makes working-surfaces and walls really *glow* with colour—sets a new standard in top-class melamine-faced laminated plastics. It's as tough as it's beautiful. Doesn't easily crack, chip, stain or fade. It's cleaned with a damp cloth—because dirt cannot stick. Boiling water, grease, spirits, dilute acids and heat up to 310°F leave new Decorplast bright and colourful as the day it was made.

The whole new range, now in sheets 9′ x 4′ as well as 8′ x 4′, thickness $\frac{1}{16}$″, is *always available* in matt and gloss finishes—plus new wood veneers that really do look like wood! Write to the address below and ask for facsimile Colour Chart and list of Distributors.

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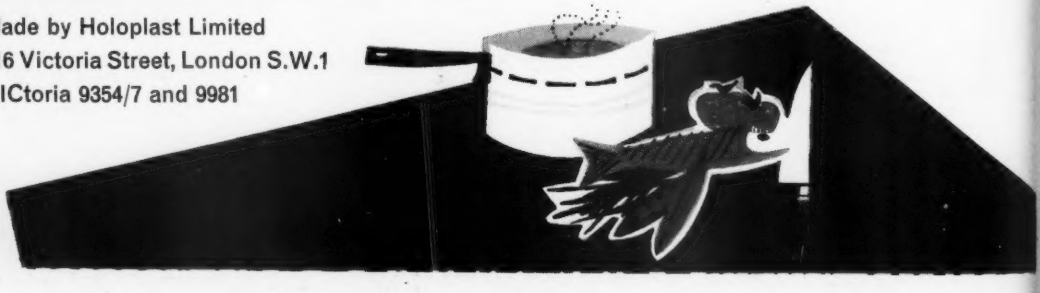
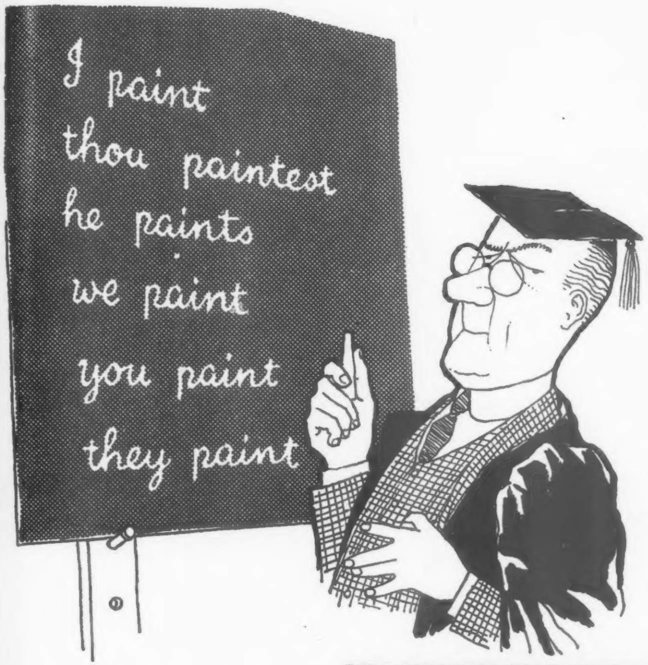


Reed PAPER GROUP


I paint
thou paintest
he paints
we paint
you paint
they paint

You don't
have to be
a grammarian
to know the
present indicative
of paint is

**DRYNAMELS**

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# monthly review by WILLIAMS & WILLIAMS

### 'WALLSPAN' FOR EASTBOURNE LUXURY FLATS

**1** The new 7-story Park Gates flats overlooking the sea at Eastbourne is, as far as we can trace, the first block of luxury flats in this country to have glass curtain walling. Wallspan was specified by the architect who was largely influenced by the detailing and way in which 'Wallspan' is designed for precision construction. This choice was amply justified in a trouble free installation.

The infilling panels are sprayed with a special paint which gives a multi-colour effect from one spraying.

Williams & Williams Standard Metal Windows to BS.990 have been used extensively both in the 'Wallspan' grid and also in the brick facades.

Park Gates present a very elegant face on every side—no pipes are visible on the exterior of the building. Single stack plumbing is used and this is thought to be the first time that it has occurred in a seven-story building outside the L.C.C. area. The interior is equally carefully detailed—for instance television and telephone wiring is laid on to every flat and apparatus merely needs to be plugged in.

A novel feature is an annexe of ten bedrooms with private bathrooms which can be rented by tenants for their visitors' occupation.

### BRITAIN'S TALLEST OFFICE BLOCK HAS ALUMINIUM WINDOWS BY WILLIAMS & WILLIAMS

**2** Eastbourne Terrace, Paddington, has already been in the news for the fantastic speed at which construction has gone on. The 18-story tower block was 'topped out' almost exactly a year after work started on the site. Williams & Williams contribution to this notable achievement was the supply of 2698 double hung windows in aluminium. In the tower block from the 8th story upwards, the windows are double glazed for additional thermal insulation.

The steel windows used in the lift halls of the tower block etc. were also supplied by Williams & Williams while the links between the tower block and the wings are in 'Wallspan' infilled with clear glass.

The balustrading which runs round the cornices of the wings is also a product of the Williams & Williams group. The upstands are made of steel and the rails are aluminium.

### 'ALUMINEX' GLAZING GIVES IDEAL WORKING CONDITIONS AT NEW PERMUTIT FACTORY

**3** The extensive use of 'Aluminex' Patent Glazing combined with the wide uncluttered floor space resulting from the use of portal frame construction gives exceptionally good working conditions on the floor of Permutit Company's new factory at Ealing. Great importance has been attached to this aspect of the new building and the whole project including the interior colour schemes was planned in detail by the architects and engineers. The factory floor area of approximately 36,000 sq. ft. is divided into three bays, two of which have electric travelling cranes running the full length. Canteen and toilet facilities including showers and lockers are grouped together as an extension of the adjoining office block where Williams & Williams provided the purpose made windows and lantern lights as well.

### 'WALLSPAN' CURTAIN WALLING AT LEEDS GRAMMAR SCHOOL

**4** As can be seen from the photograph, interest is added to the long facade of the main classroom block by a 'picture window' treatment of the staircase wells using clear-glazed 'Wallspan'. The use of individual staircase access to the blocks of classrooms rather than corridors running through the building from end to end is an unusual feature. It comes about because the north/south facing block has to be built two classrooms 'thick'. The north facing rooms open on to terraces on the first floor and at the top of the building receive a measure of sun through roof glazing. 'Wallspan' is used also in the south-east elevation of the foyer linking the classroom and assembly hall blocks.

### A WILLIAMS & WILLIAMS 'CO-OPERATIVE' CONTRACT

**5** Everything in the new St. Helen's Co-operative Society store which Williams & Williams could supply—they supplied. 'Wallspan' Curtain Walling, purpose made aluminium windows, standard steel windows, 'Aluminex' Patent Glazing, 'Aluminex' Lantern Lights and pressed metal work. Quite an impressive list—and it had the added advantage that all these products could be integrated by the architect on one schedule so as to ensure a logical and easy-to-control sequence of delivery.

**NEW STANDARD WINDOWS NEED NO PAINTING!**

Steel windows to BS.990 are now available electro-galvanized, phosphated, primed *and painted*—AT NO EXTRA COST! Finish is I.C.I. Beige R215/166/2. *These windows are fully protected and need no painting unless to change their colour.*

**WILLIAMS & WILLIAMS**
**RELIANCE WORKS · CHESTER**

*Member of the Metal Window Association*

---

**1** PARK GATES FLATS, EASTBOURNE
*Architect: H. Hubbard Ford,* F.R.I.B.A.
*Architect-in-Charge: S. Hoyer,* M.A.A.
**A** *General view showing the 'Wallspan' installation.*
**B** *Detail showing the Williams & Williams Standard Metal Windows.*

**2** EASTBOURNE TERRACE DEVELOPMENT, LONDON
*Architects: Cecil H. Elsom & Partners.*
*Consulting Engineers: Clarke, Nicholls & Marcell.*
*Quantity Surveyors: Cyril Sweett & Partners.*
*Contractors: Tersons Limited.*
*Some of the 2698 Williams & Williams aluminium double-hung windows.*

**3** THE PERMUTIT CO. LTD., EALING
*Architects and Consulting Engineers: Husband & Co.*
*'Aluminex' Patent Glazing in one of the portal framed bays.*

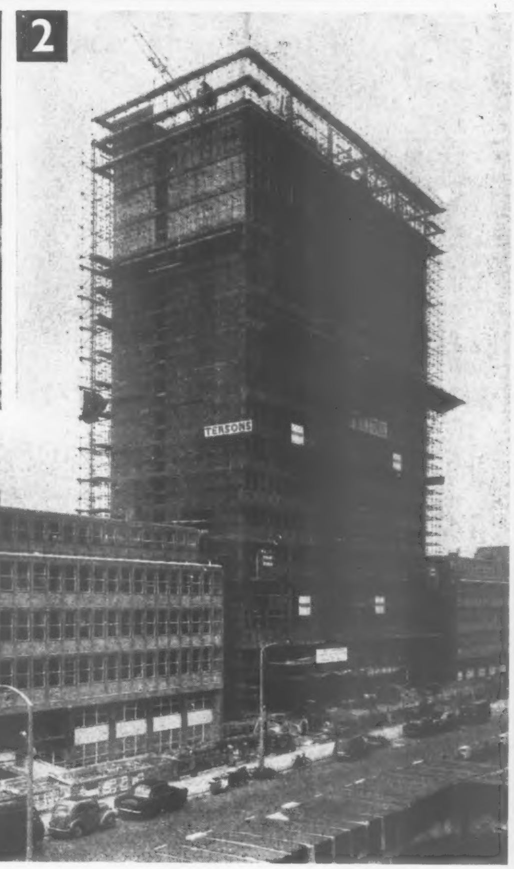
**4** TEMPLE MOOR GRAMMAR SCHOOL, LEEDS
*Architects: F. R. S. Yorke, E. Rosenberg, C. S. Mardall,* F./F.R.I.B.A.
*North-western facade of the classroom block note the detailing of the staircase cladding.*

**5** C.W.S. STORE, ST. HELEN'S, LANCASHIRE.
*Architect: G. S. Hay,* A.R.I.B.A., *Chief Architect, C.W.S. Architect's Department, Manchester.*
*Architect in design: J. Douglas,* A.R.I.B.A
*Six Williams & Williams products have been used in this building.*

1A

3

1B



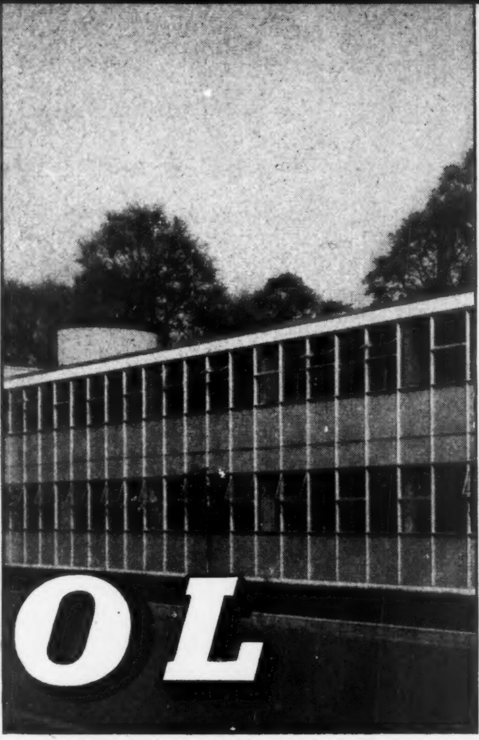
2

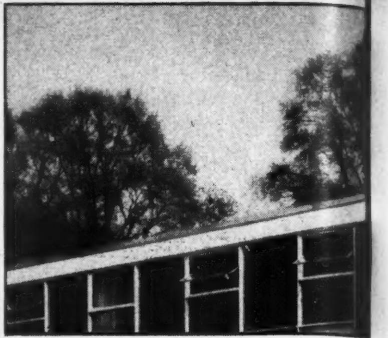
4

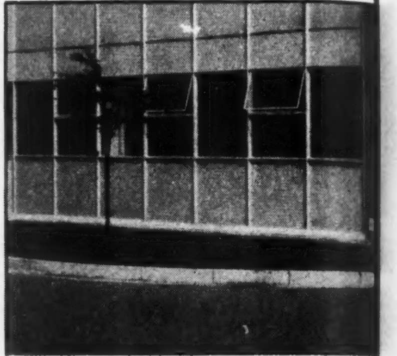
5

HELENA HOUSE

*Project for : National Physical Laboratory, Teddington.*
*Architect : A. S. Reid, A.R.I.B.A., of the Chief*
*Architect's Division, Ministry of Works*
*Contractor : W. E. Chivers & Son.*
*e Type C Escol panels shown are in pale grey (B.S.I. 7-078)*
*and those on the north elevation in brown (B.S.I. 3-039)*
*and yellow (B.S.I. 4-055)*







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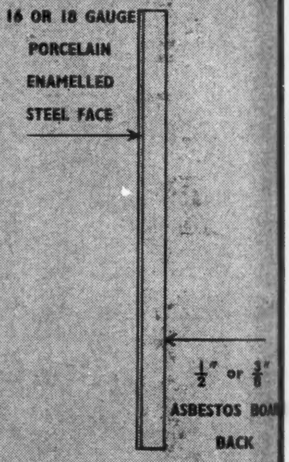

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MULTI-STOREY FLATS
SHOPS & STORES

## PANEL SECTION TYPE A

**Composite panel consisting of 16 or**
**vitreous porcelain enamelled steel shee**
**to ⅜" or ½" asbestos board. The asbestos**
**may also be covered by an enamelled**
**or galvanized sheet. Weight: 5**
**U value: 0.48.**

Our experience, gained in 4 years of panel production and backed by our research and development organisation, is at your service.

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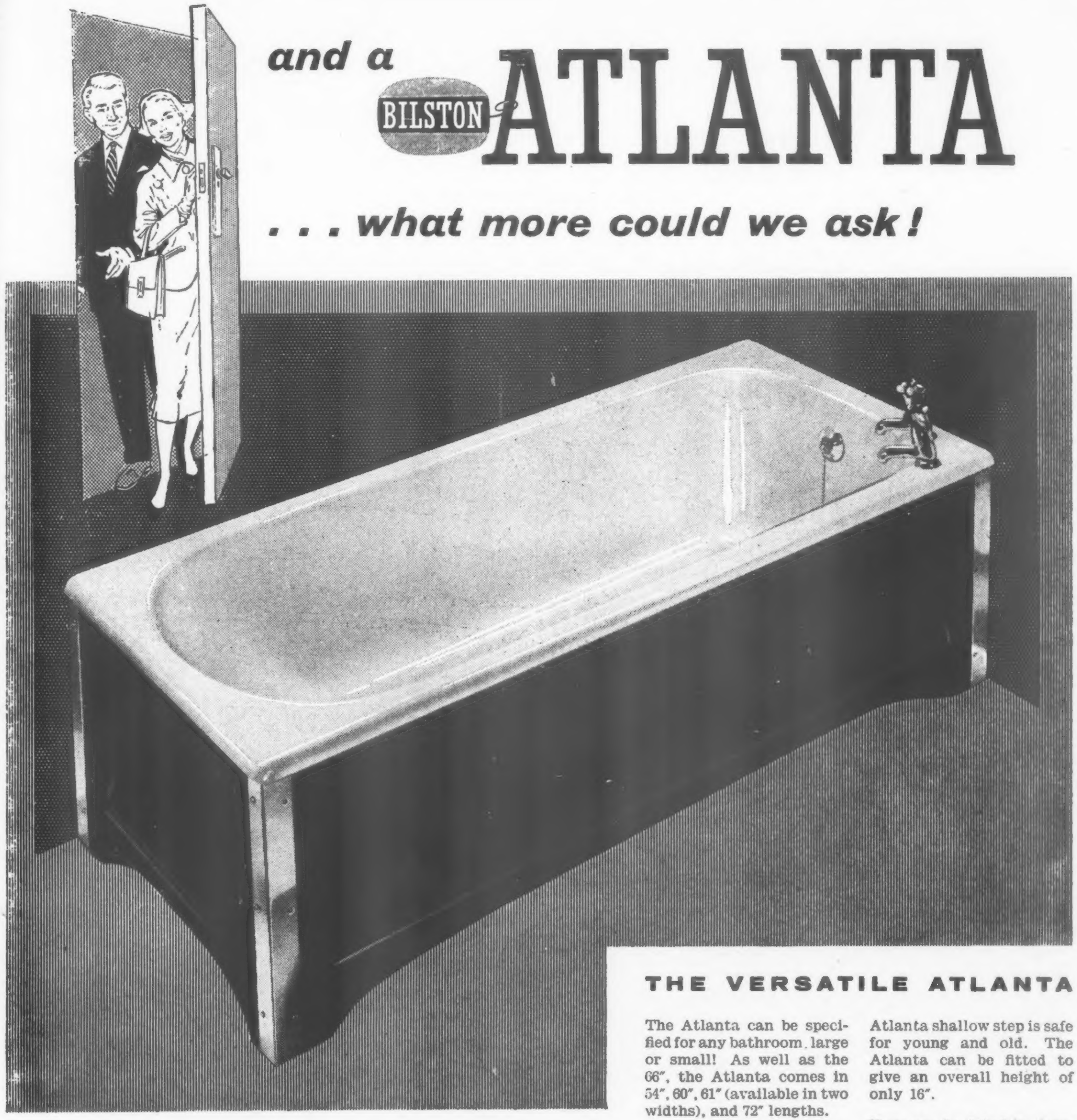

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THE VERSATILE ATLANTA

The Atlanta can be specified for any bathroom, large or small! As well as the 66", the Atlanta comes in 54", 60", 61" (available in two widths), and 72" lengths.

The Atlanta 54, 60 and 61 must be preferred to any other baths of these sizes because they are exact replicas of the full size bath, scaled down to small proportions.

Atlanta flat bottom helps to prevent slipping—ensures comfort.

Atlanta shallow step is safe for young and old. The Atlanta can be fitted to give an overall height of only 16".

Taps can be fitted in three different positions to meet all possible requirements.

Corner tap mounting facilitates installation and maintenance.

The Atlanta is supplied with or without overflow—with or without handgrip.

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**—the bath *SPECIALISTS***

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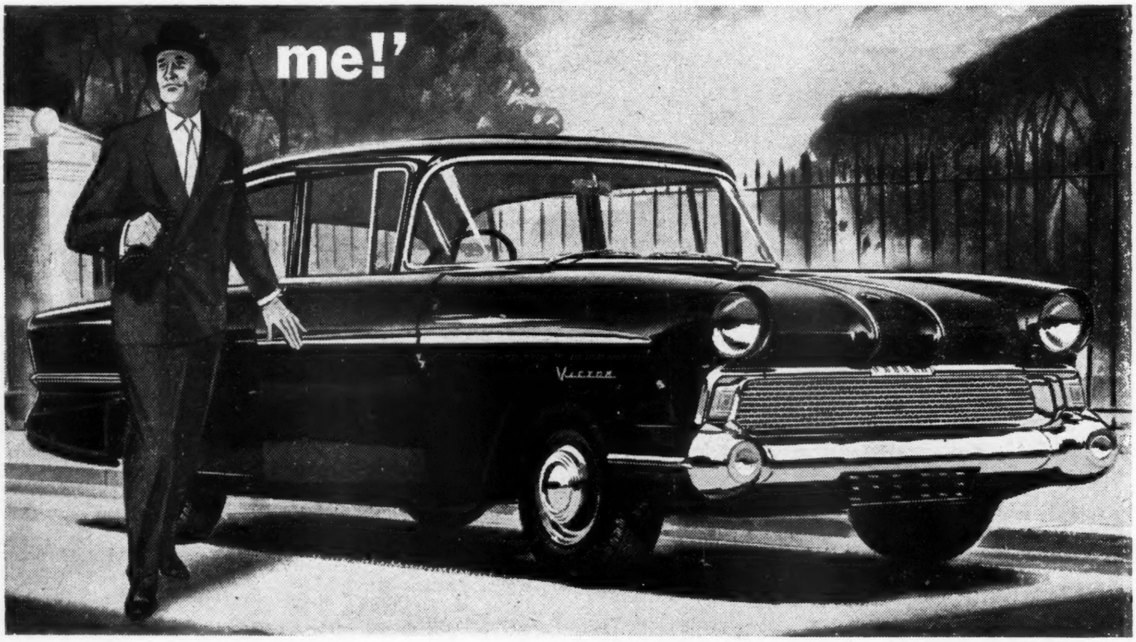

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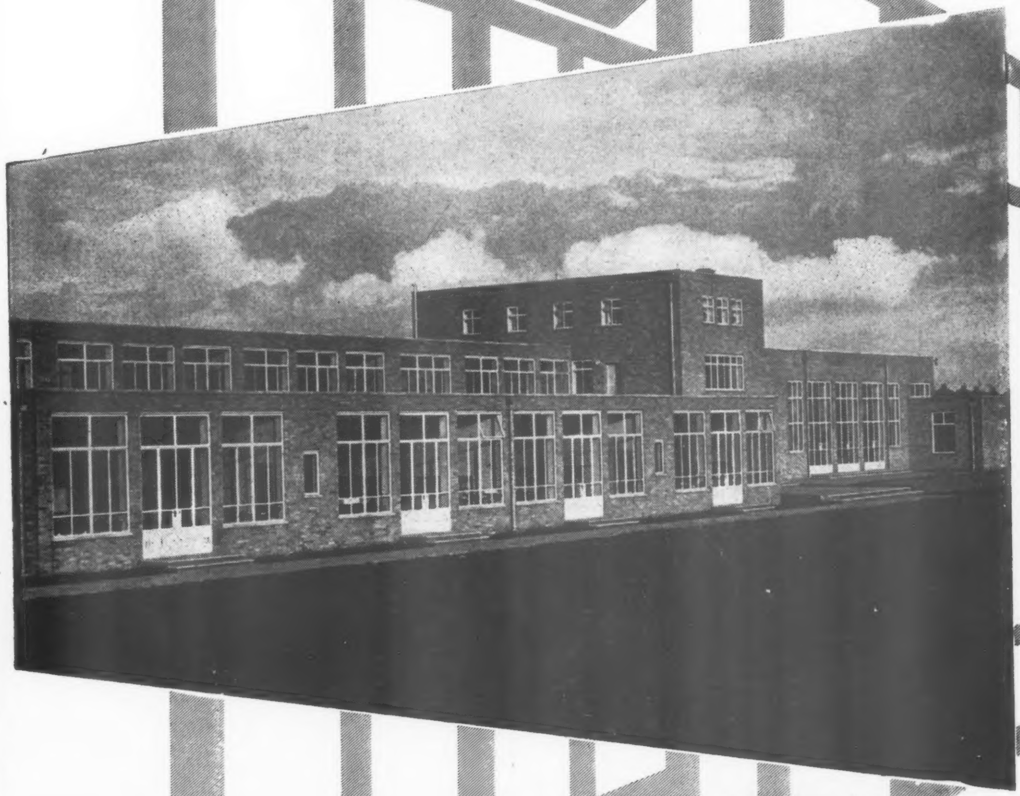

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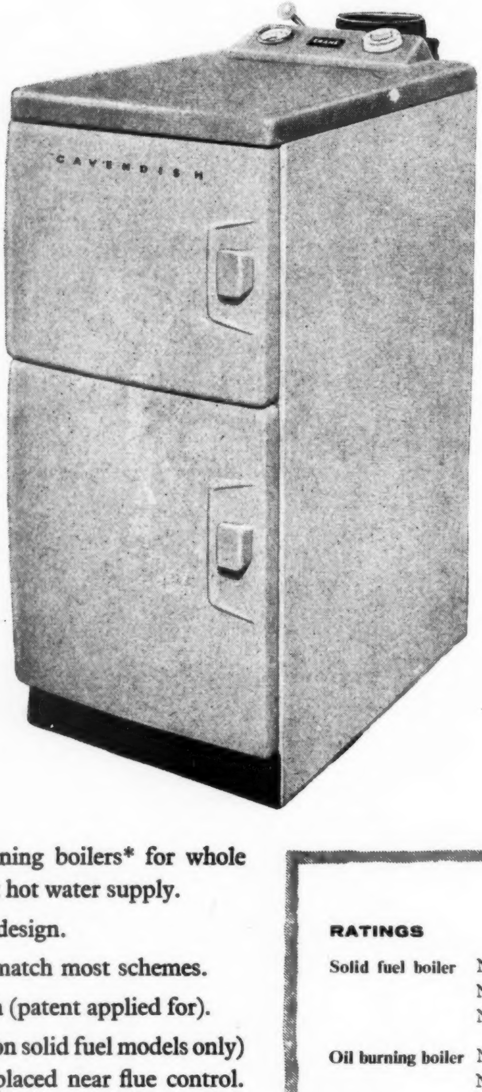

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- Rocking grate of new design (patent applied for).
- Ultra-sensitive thermostat (on solid fuel models only) and thermometer sensibly placed near flue control.
- The beautifully finished stove-enamelled jacket is so designed as to necessitate only one set of doors for riddling and fuelling.
- Large capacity ashpan effectively dust-sealed.
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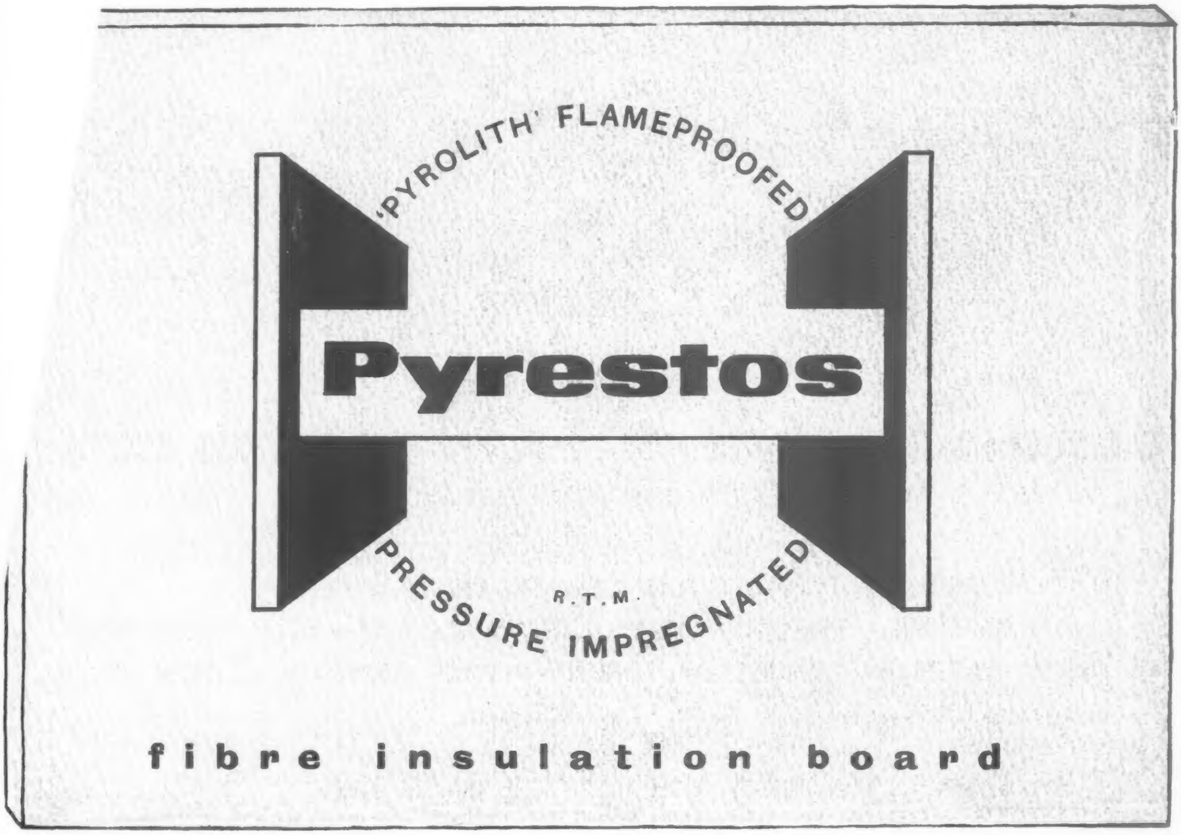
*throughout under pressure*



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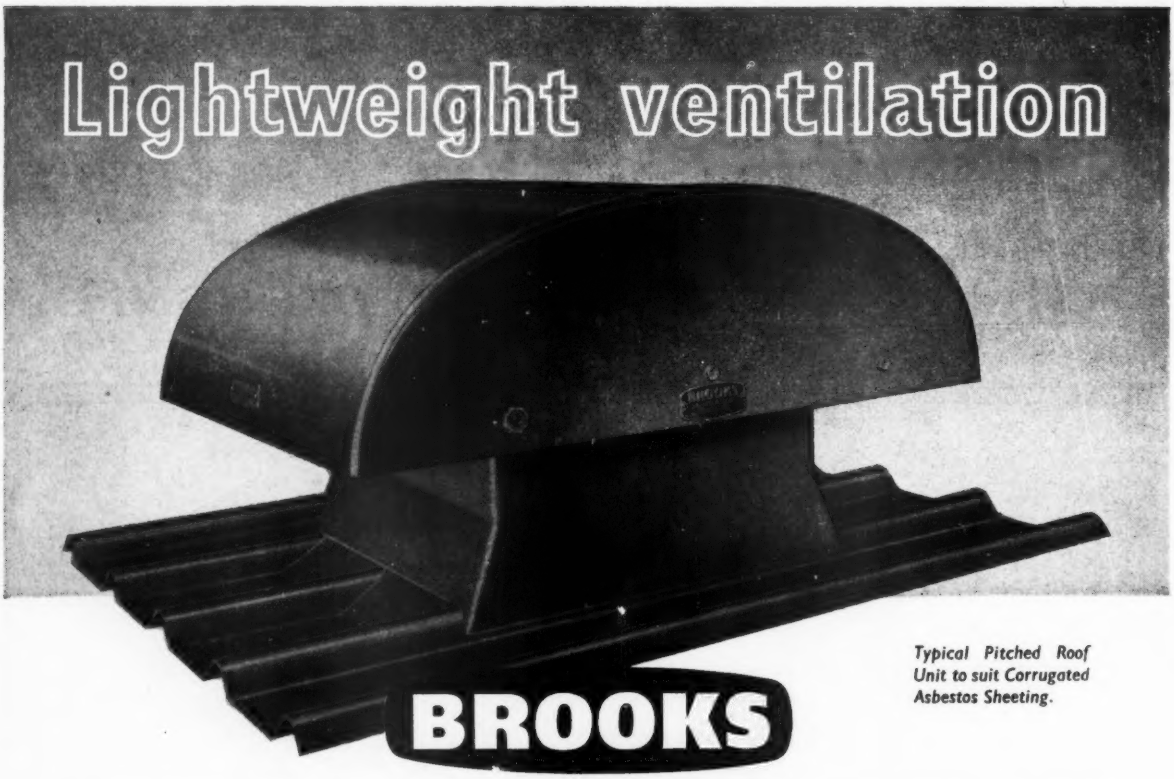

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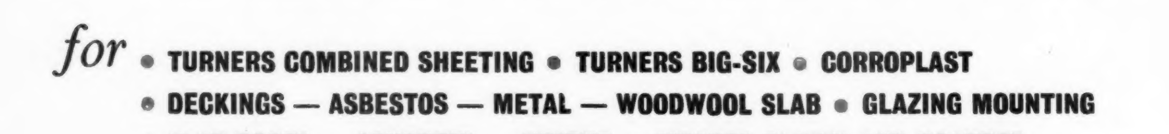

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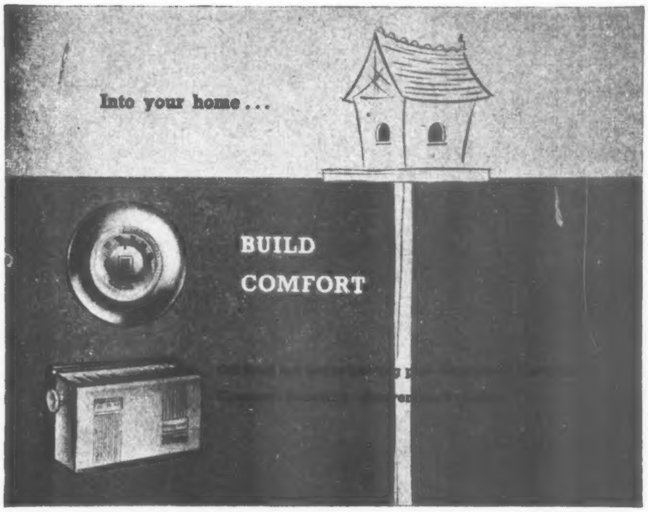

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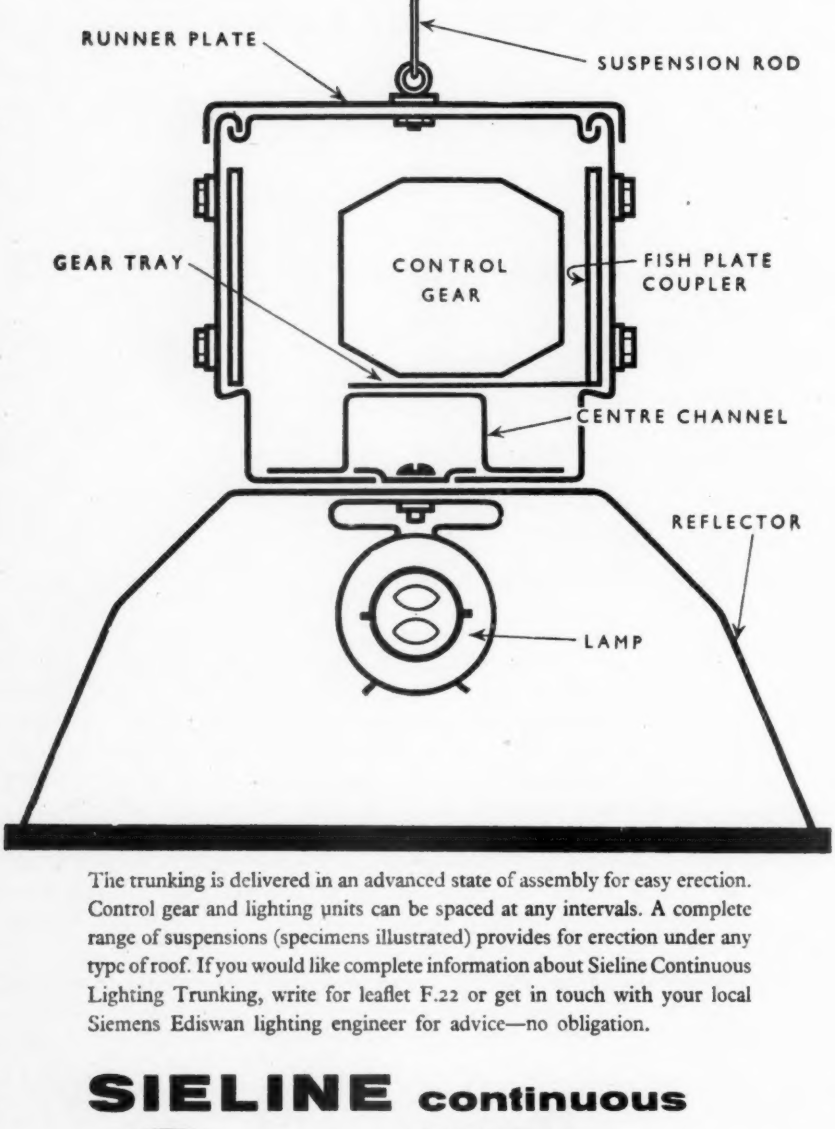
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The trunking is delivered in an advanced state of assembly for easy erection. Control gear and lighting units can be spaced at any intervals. A complete range of suspensions (specimens illustrated) provides for erection under any type of roof. If you would like complete information about Sieline Continuous Lighting Trunking, write for leaflet F.22 or get in touch with your local Siemens Ediswan lighting engineer for advice—no obligation.

**SIELINE continuous lighting trunking**

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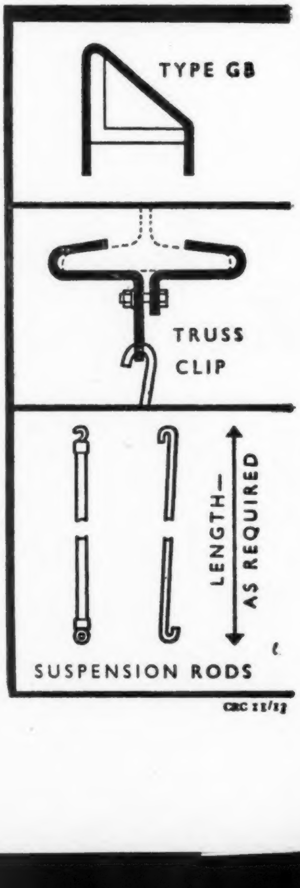
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TRUSS CLIP
LENGTH—AS REQUIRED
SUSPENSION RODS

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**= the longest decorative life**

Based on Gay's own alkyd-type media, GAYMEL enamel combines hardness of gloss with adequate flexibility and exceptional adhesion. It is these properties that enable buildings enriched with GAYMEL to retain freshness of decoration through years of exposure.

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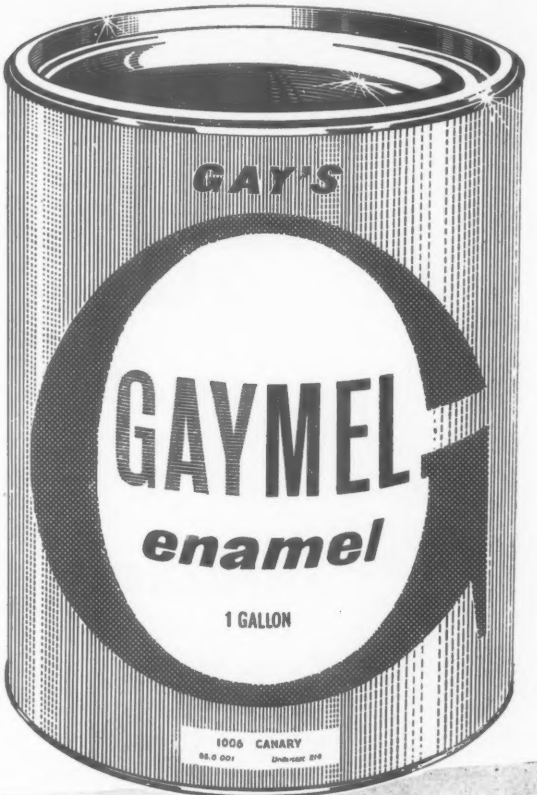

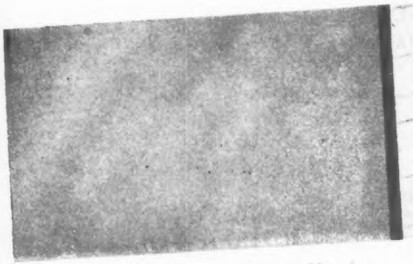

*Good quality oil paint is capable of long preservative life, but is soon dulled and stained by exposure.*

*Hard Gloss Paints, when flexibility is inadequate, may fail to expand and contract with the slight but inevitable movement of timber surfaces.*

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*SAYS THE FIRE PROTECTION OFFICER*

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*says Mrs. Jackie Chatten of Ickenham, Middlesex.*

*The Chattens have background heating plus lots and lots of hot water for their home. Many homes, however, have installed oil firing for hot water only. And a great proportion of all homes with oil fired heating use one of two fuels supplied by Shell-Mex and B.P. Ltd. – BP Domesticol and Shell Domestic Fuel Oil.*

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*See how you can share in this exciting new market*

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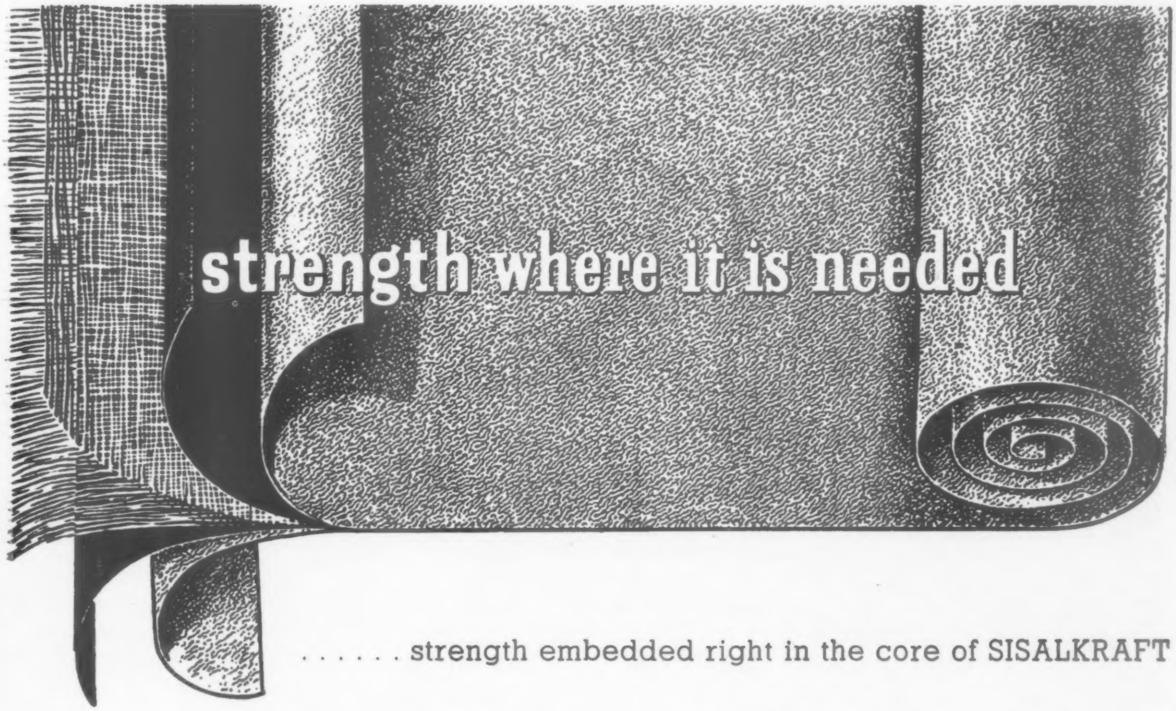
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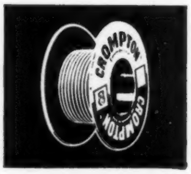
The score for the Pastoral Symphony is a detailed specification that is set down in a precise notation. Specific though the score be, its interpretation can vary considerably and that is why every discriminating music-lover looks for the name of the conductor before booking his seat for a performance. That is true of music, you may say; but surely electric cable can be specified *completely?* It can; but it still has to be made. In this case it is the almost intuitive competence—the know-how—which plays an important part. Competence in manufacturing grows with experience and that is why, when specifying electric cable, it pays to look for the name of a company with a long history behind it.



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## TO CUT YOUR BUILDING COSTS

**Outlay on pipes is only a fraction of the cost of a drainage installation.** In winter one out of every five days is lost when putting in conventional pipes. With Key pipes, however, the job still goes ahead cutting out unproductive labour, keeping down overheads and therefore cutting costs.

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**COST OF A DRAINAGE INSTALLATION**

= *COST OF LABOUR*

+ *COST OF OVERHEADS*

+ *COST OF HOLD-UPS*

+ *COST OF SITE DISRUPTIONS*

+ *COST OF MATERIALS*

**Use KEY and cut this total cost**

**BRITISH STANDARD KITE MARK**

Key pipes comply with BS2760 1956. They are the first pitch fibre drainpipes to carry the British Standard 'Kite' Mark. This is a guarantee of quality and means that the Inspectors of the British Standards Institution have access to our pipe factory at any time.

# THE JOB GOES AHEAD -against all odds

**Rain?** Driven taper joints give Key an immediate advantage over cement-jointed rigid pipes, which cannot normally be laid in waterlogged trenches. Runs can be prefabricated at ground level, lowered into prepared trenches and tested immediately.

**Frost and Snow?** Here again the taper joint means that work can still go ahead with Key. In fact frosty days are usually ideal for laying these modern drainpipes.

**Bad Ground?** Key pipes do not have to be laid in concrete, and haunched, on bad ground. Being resilient, they are better without concrete. The savings in skilled labour, time and cost are obviously considerable.

**Site Congestion?** Open trenches and pumping equipment normally cause hold-ups on site in wet weather. Immediate laying, testing and backfilling with Key pipes overcome this problem and keep traffic flowing.

**Hot Sun and Drying Winds?** Even good weather can be bad weather when pipes have to be mortar-jointed. This problem never arises with Key pipes.

## More advantages of KEY PITCH FIBRE PIPES

***No corrosion*** Remarkably resistant to acids and alkalis

***No root growth*** The close fitting tapered joints are machined to close limits.

***No cracking through settlement*** Natural resilience means that pipes will not crack through normal earth movement.

***Faster laying—fewer breakages*** 500 ft. an hour is a modest average with semi-skilled labour. A trench can be excavated, the drain laid, tested and backfilled in a day Long lengths, toughness and resilience mean fewer breakages.

***Widely approved*** Most public authorities and relevant professional bodies have given their approval.

***Lower handling costs*** Your unloading and handling costs will be cut by 75% because Key Pitch Fibre pipe is only one quarter the weight of salt glaze ware. It is available in the same diameters, in convenient 8 ft. lengths.

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A practical demonstration of the advantages of Key pipes can be arranged at any time through your merchant, who will also supply any quantity you require within a matter of hours.

## SPEED THE JOB—CUT THE COST WITH

## KEY PITCH FIBRE PIPES

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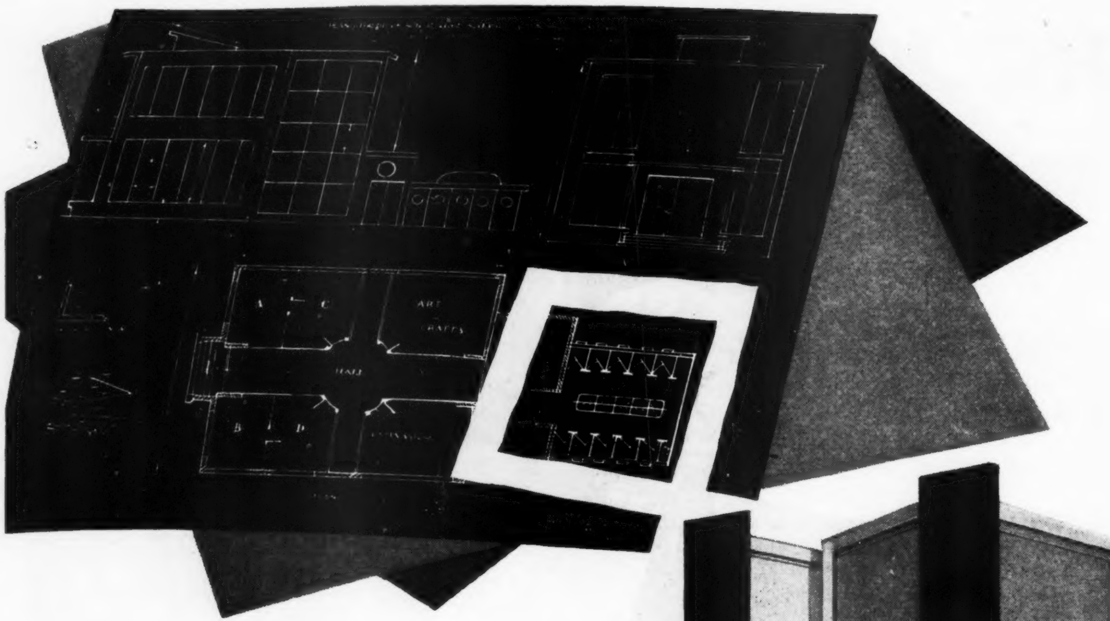

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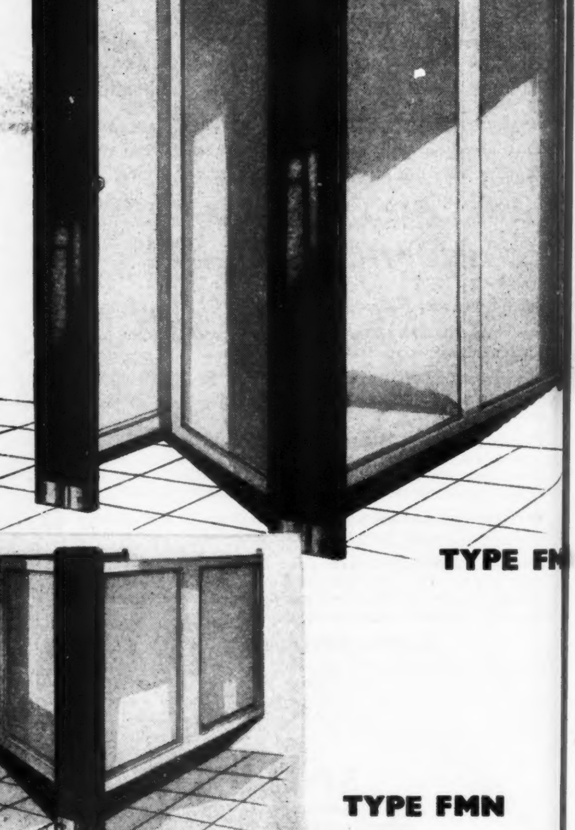

**TYPE FM**

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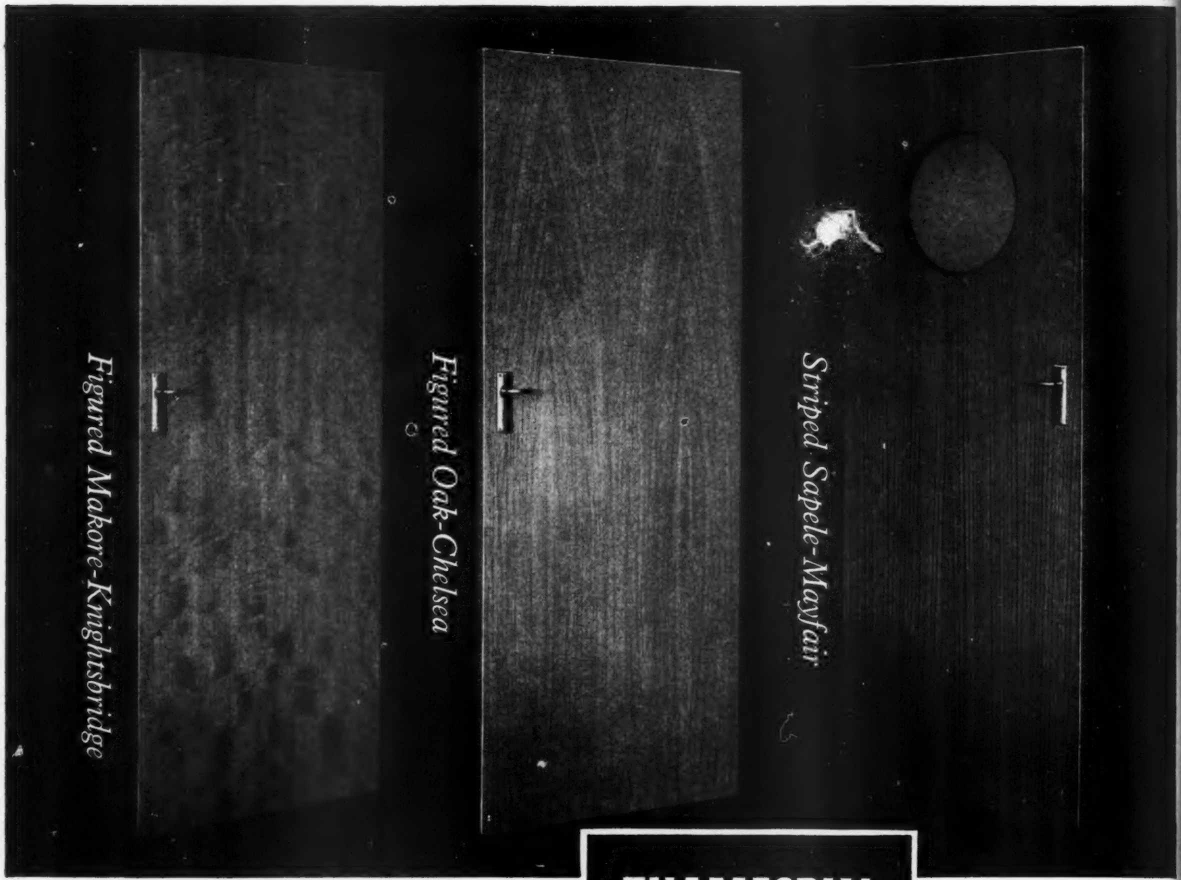
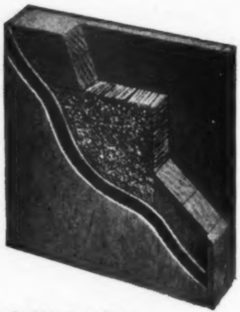


with the **famous** THAMESPLY WERNO **core**



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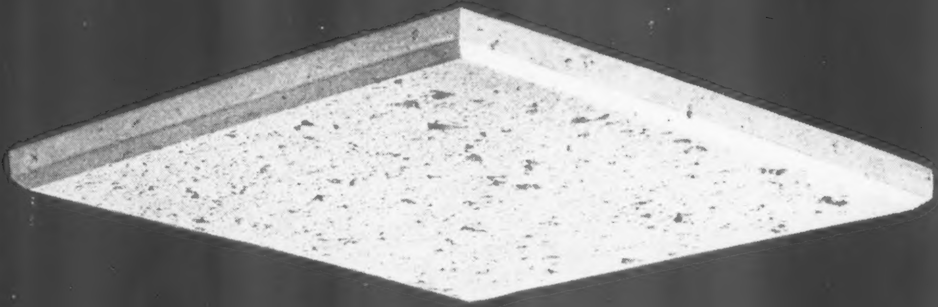

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*" I wouldn't have minded if it had been decent looking "*

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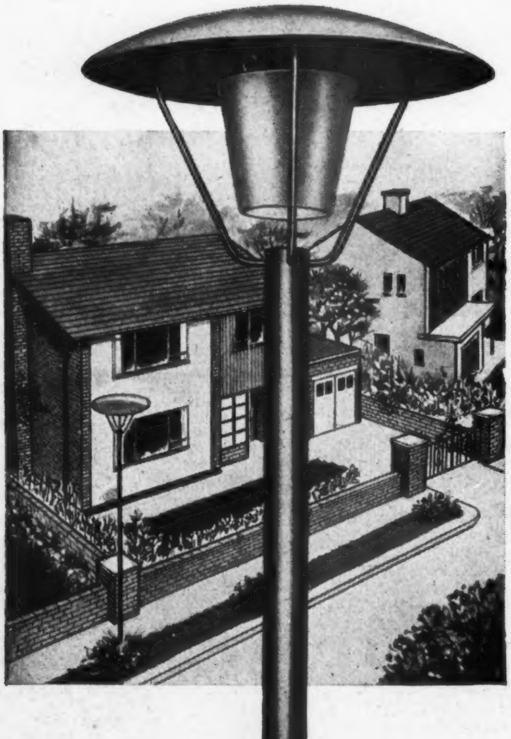
## They should have given him the E5890 LANTERN



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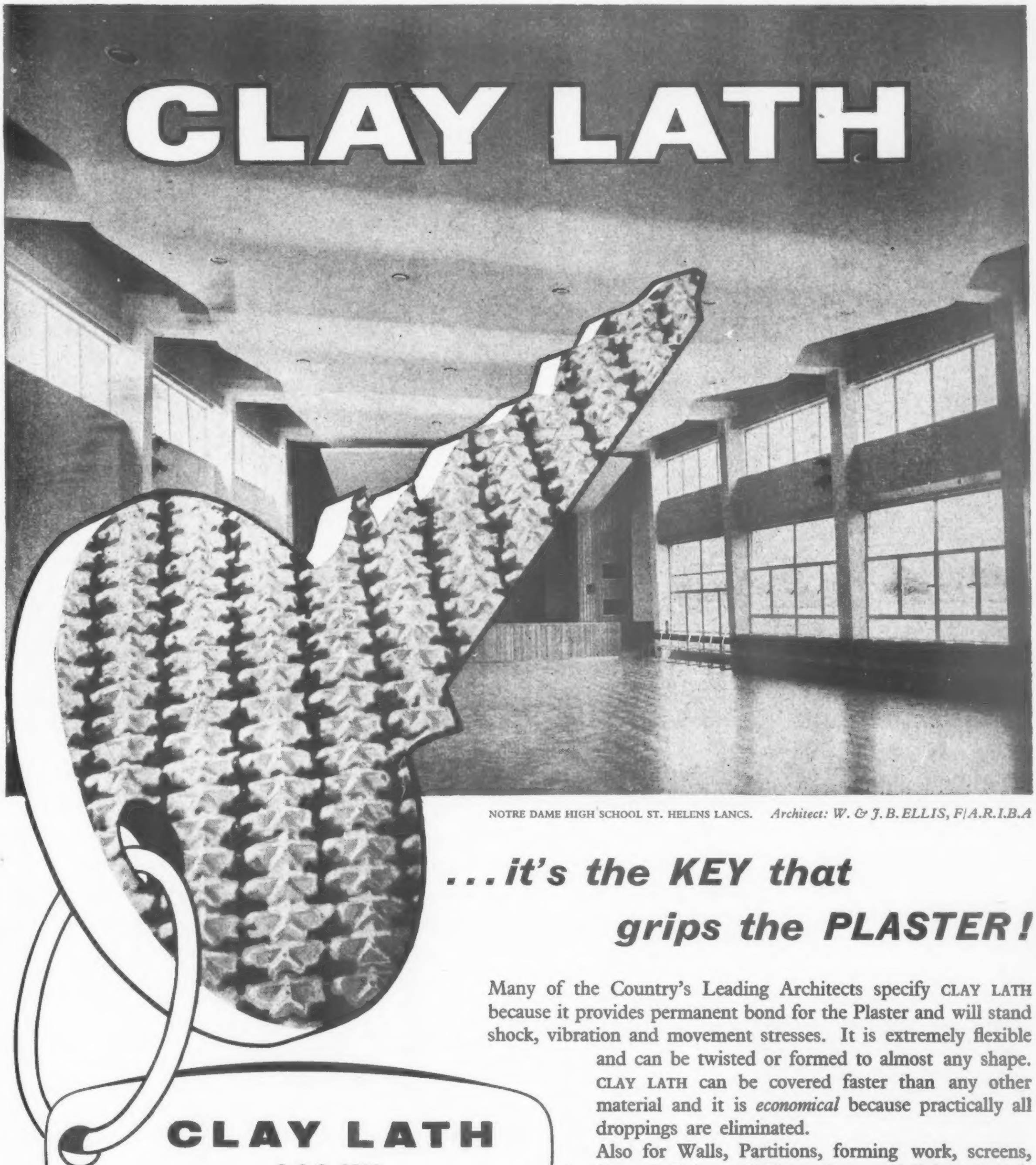

NOTRE DAME HIGH SCHOOL ST. HELENS LANCS. *Architect: W. & J. B. ELLIS, F/A.R.I.B.A*

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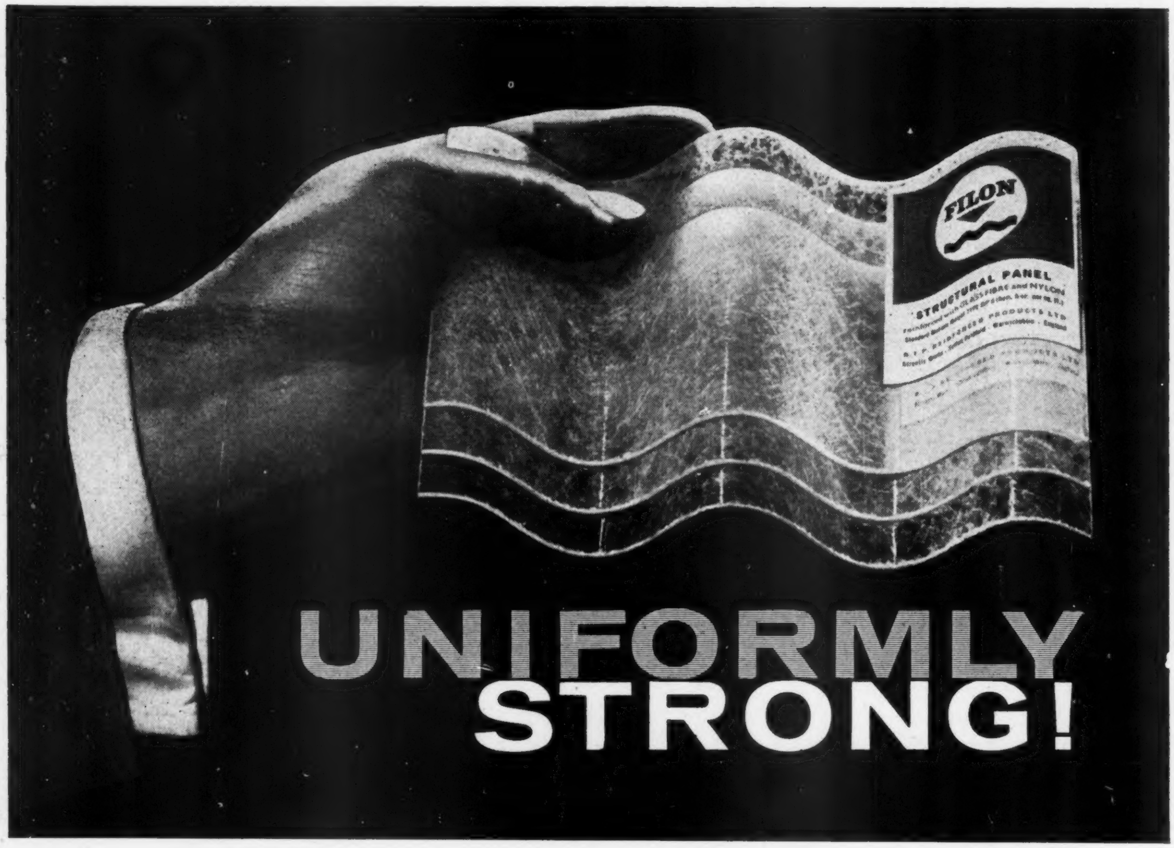

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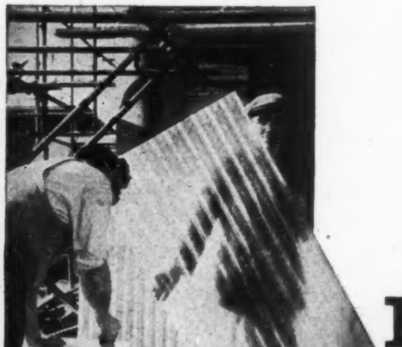

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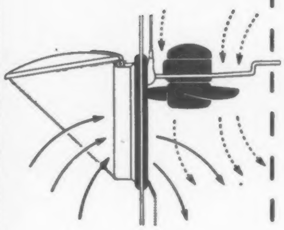

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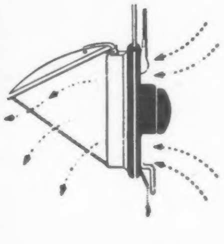

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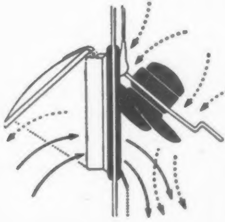

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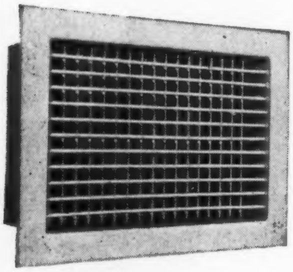

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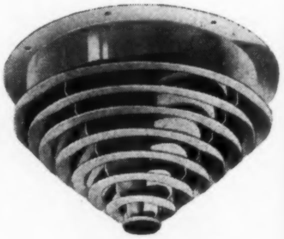

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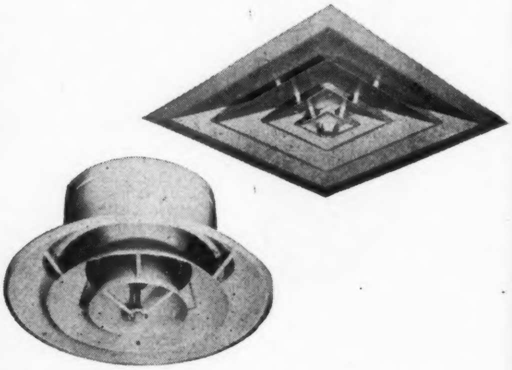

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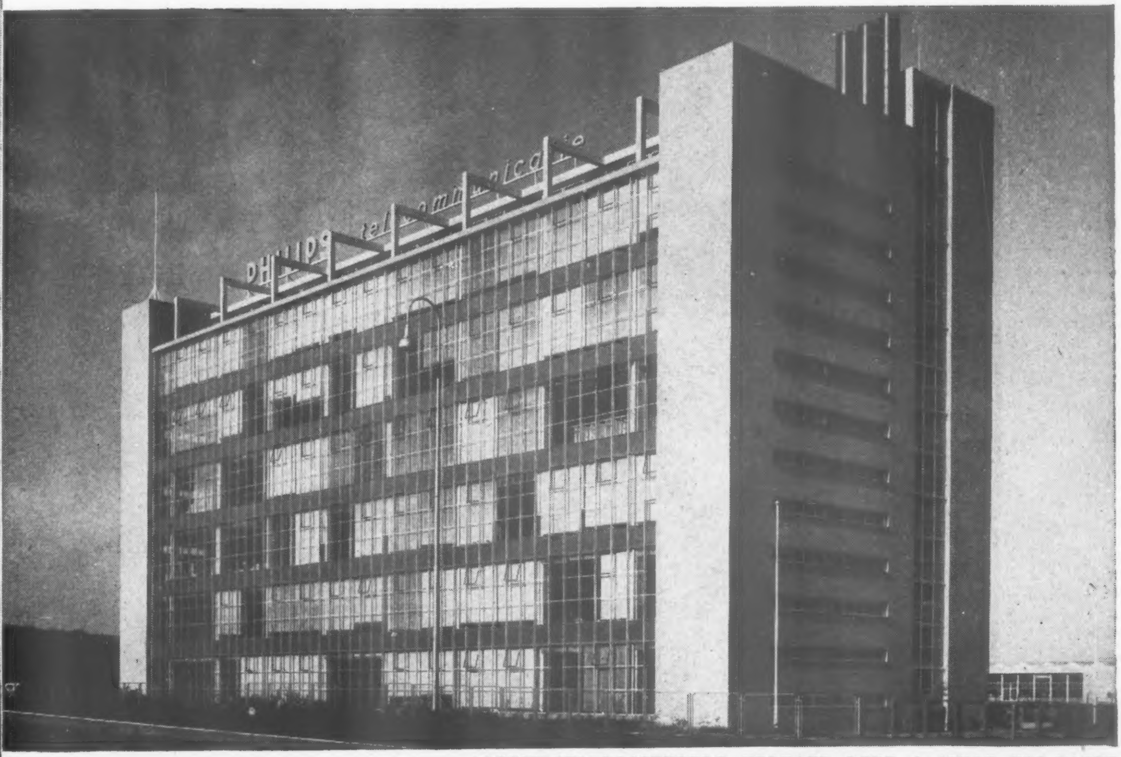
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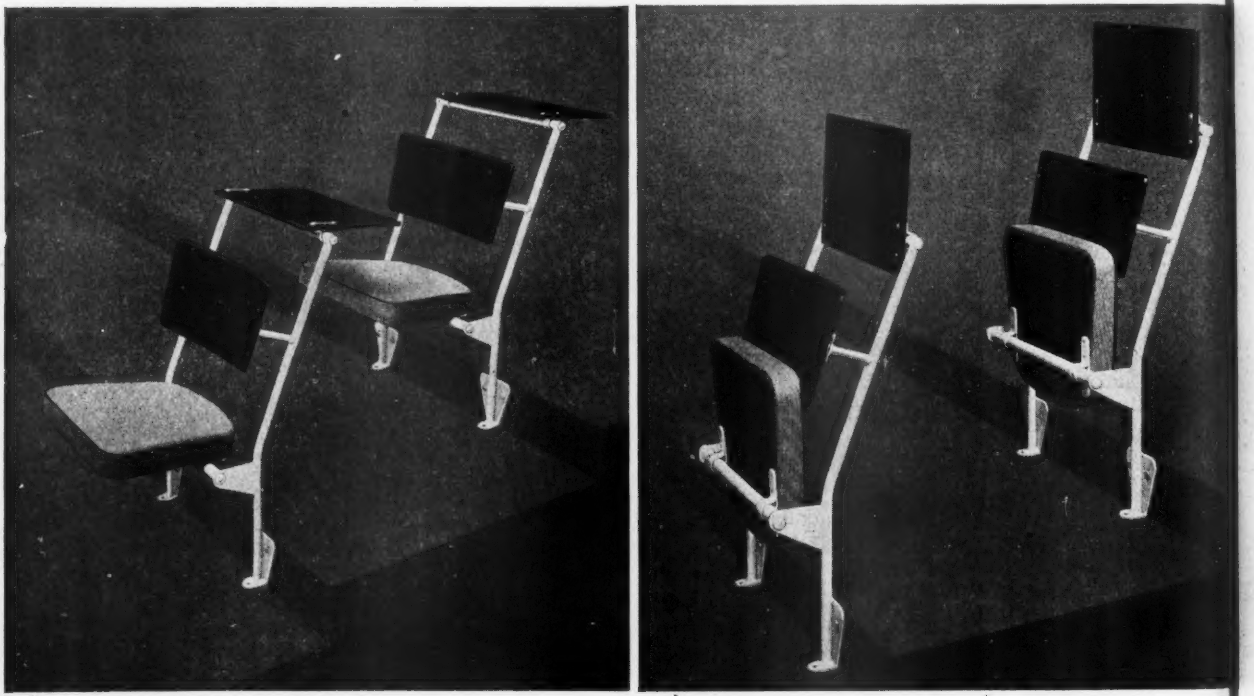

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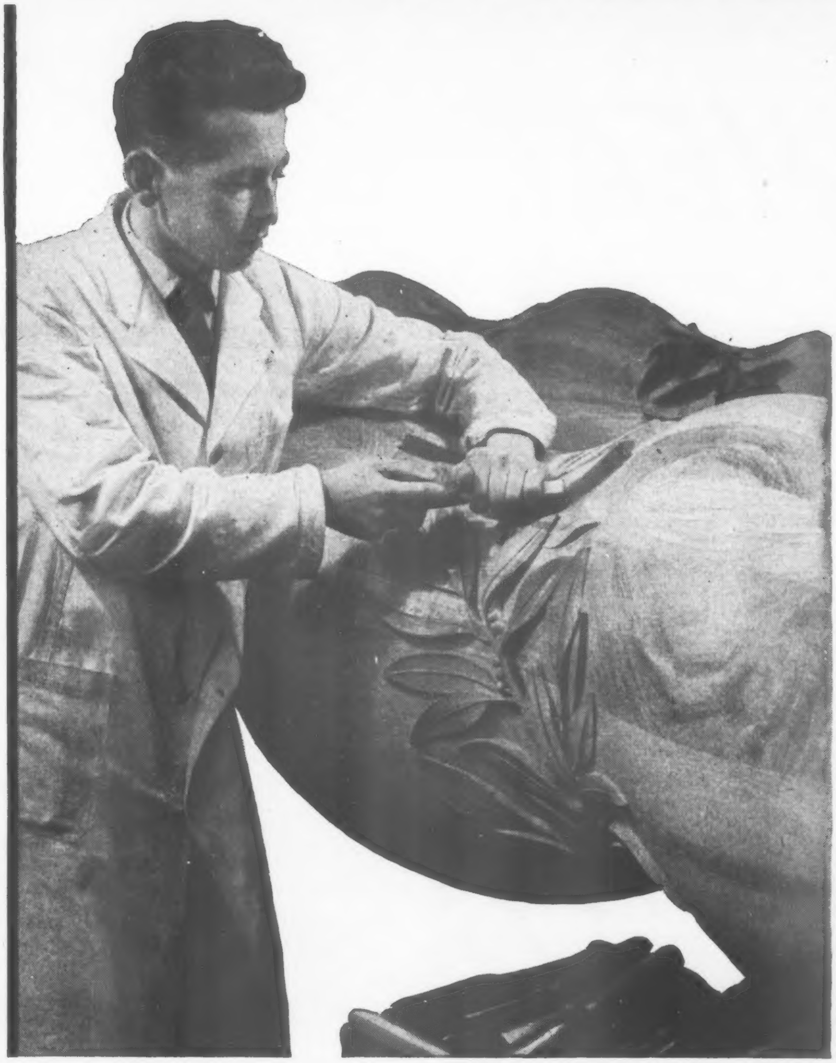

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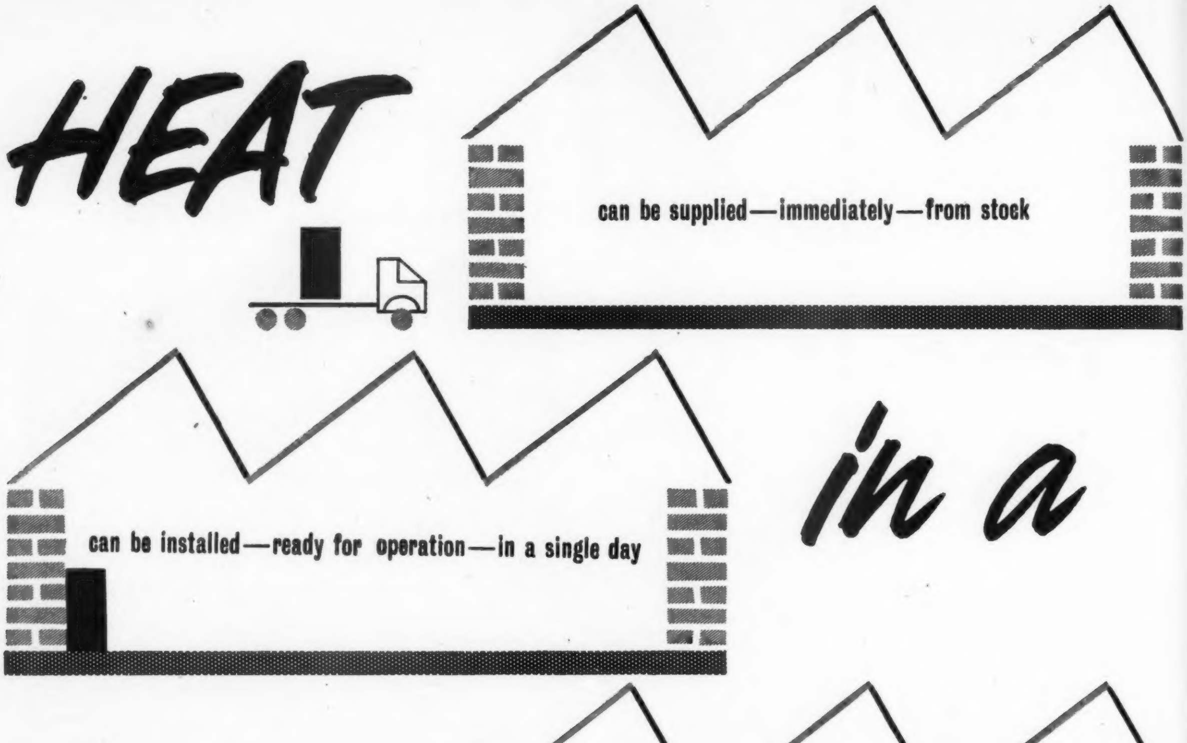
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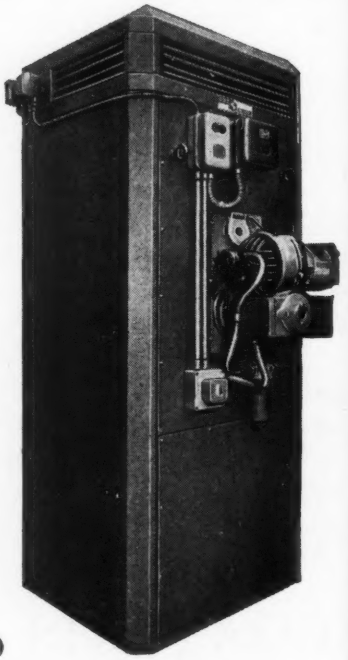

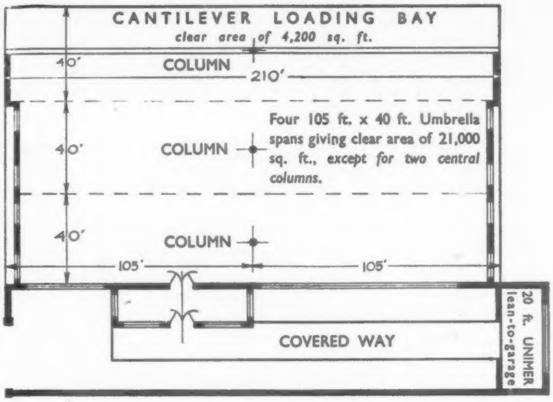
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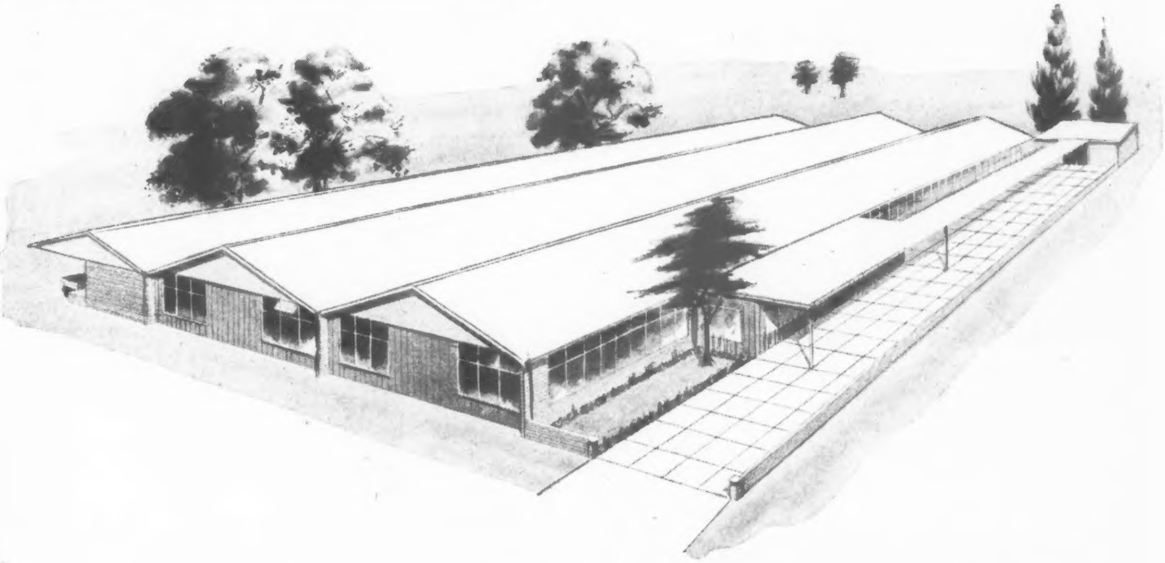

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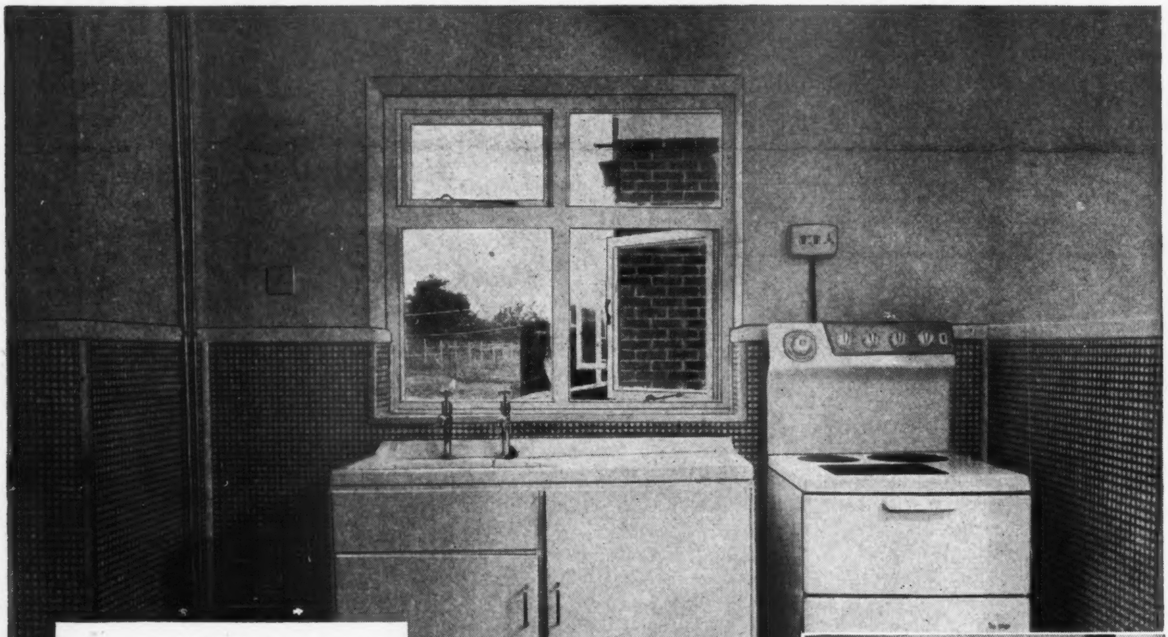

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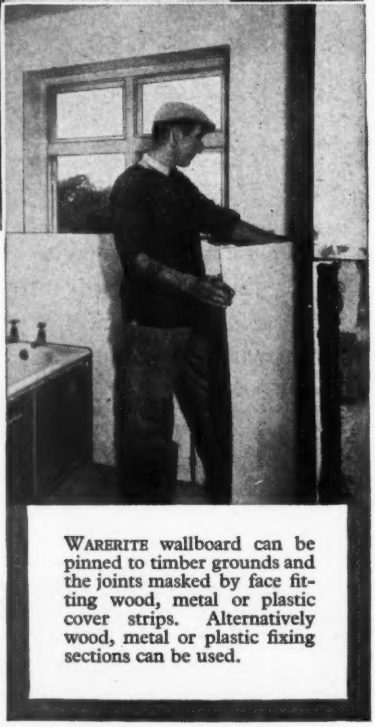

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DUA
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| Sound frequency (c.p.s.) |
|---|
| Sound absorption coefficient |

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panel
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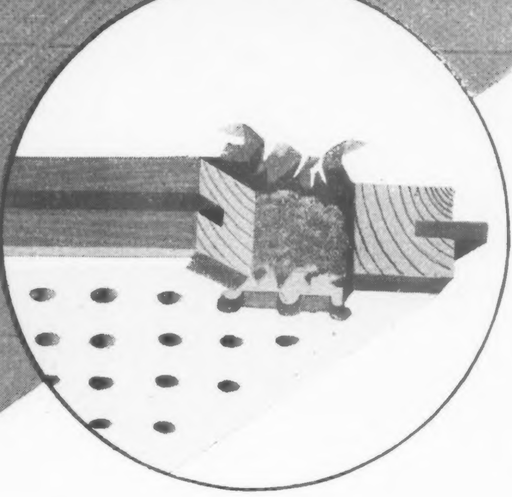
AT A
display



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### –the vital statistics

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|---|---|---|---|---|---|---|---|---|
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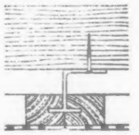

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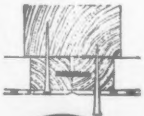

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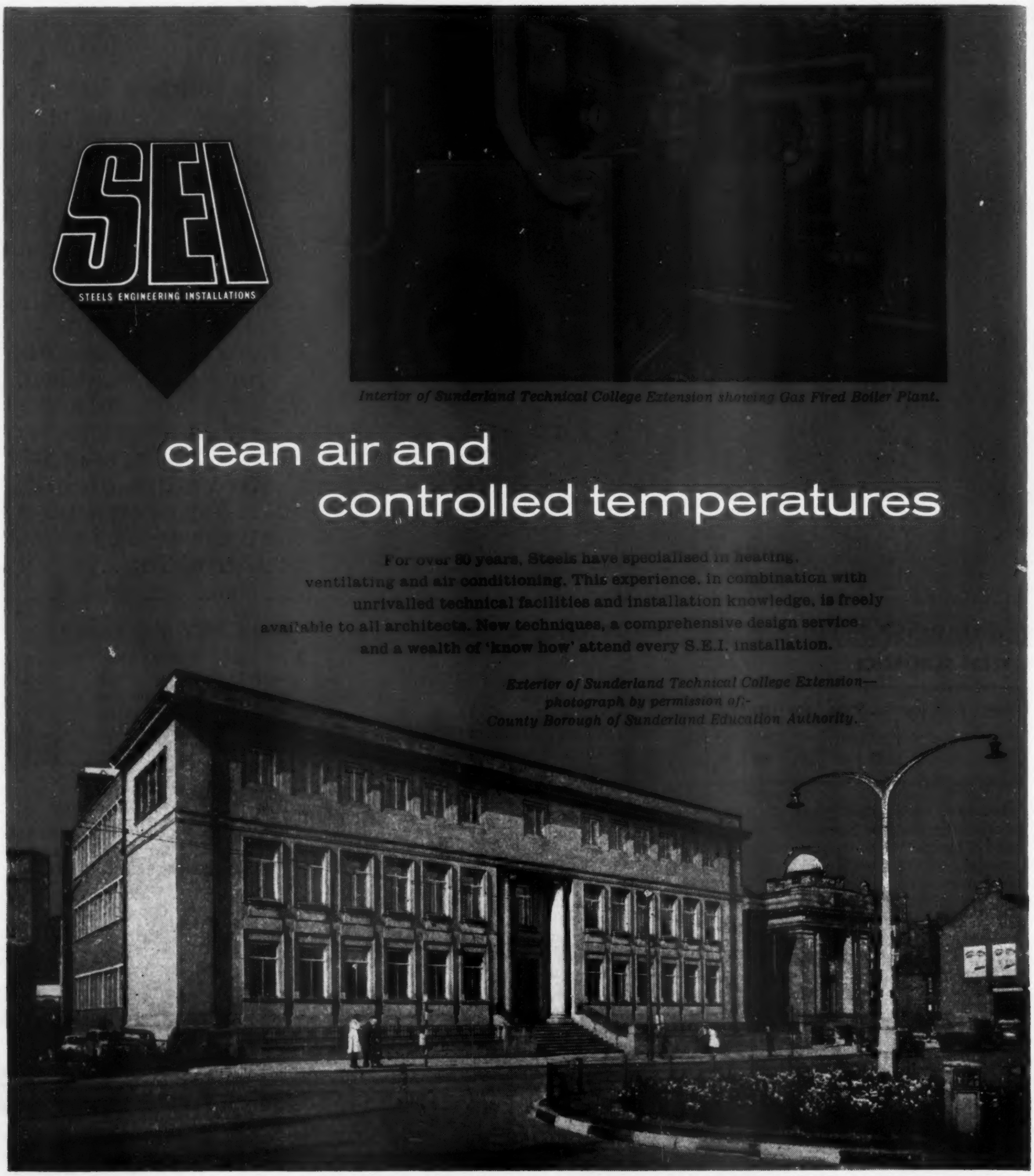

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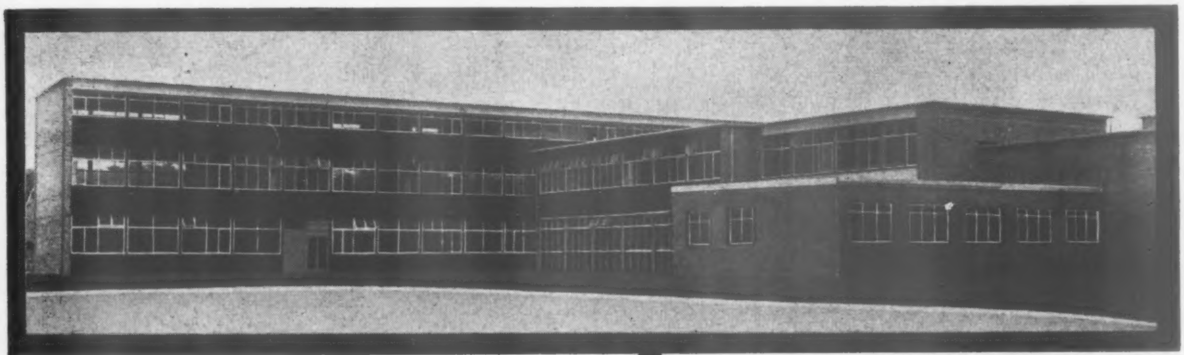

*Architect: F. Reginald Steele, F.R.I.B.A., R.I.B.A., Dist.T.P., F.R.I.C.S., M.T.P.I. A.M.I.Struct.E., County Architect, West Sussex County Council, Chichester.*

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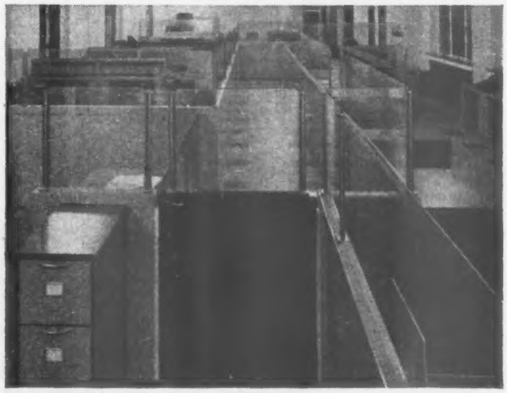

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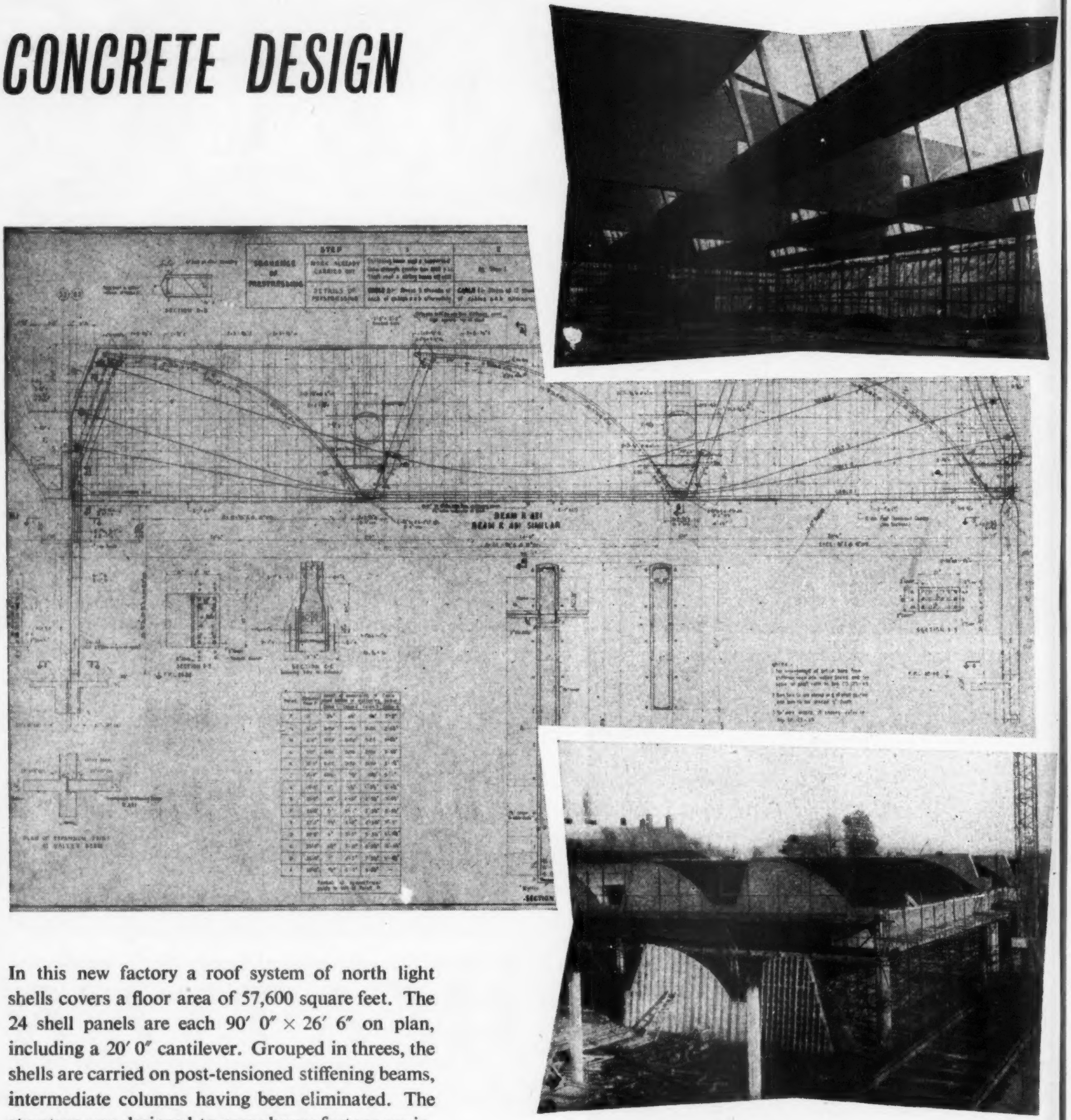

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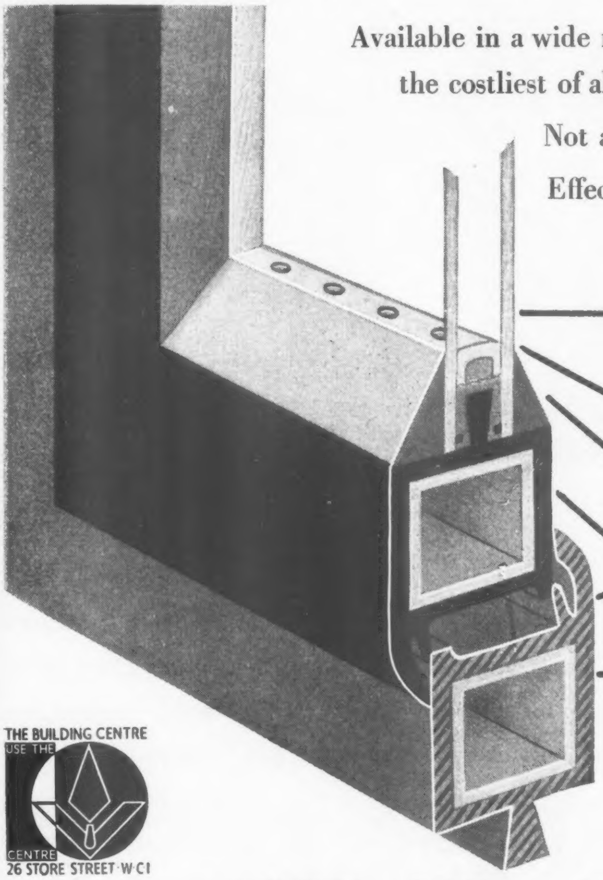

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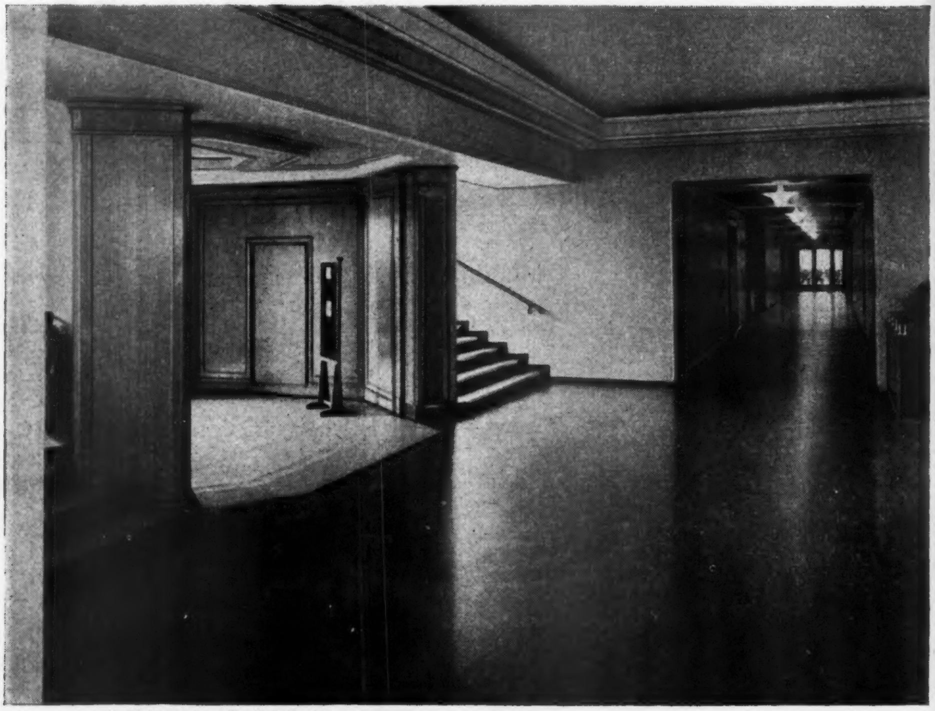

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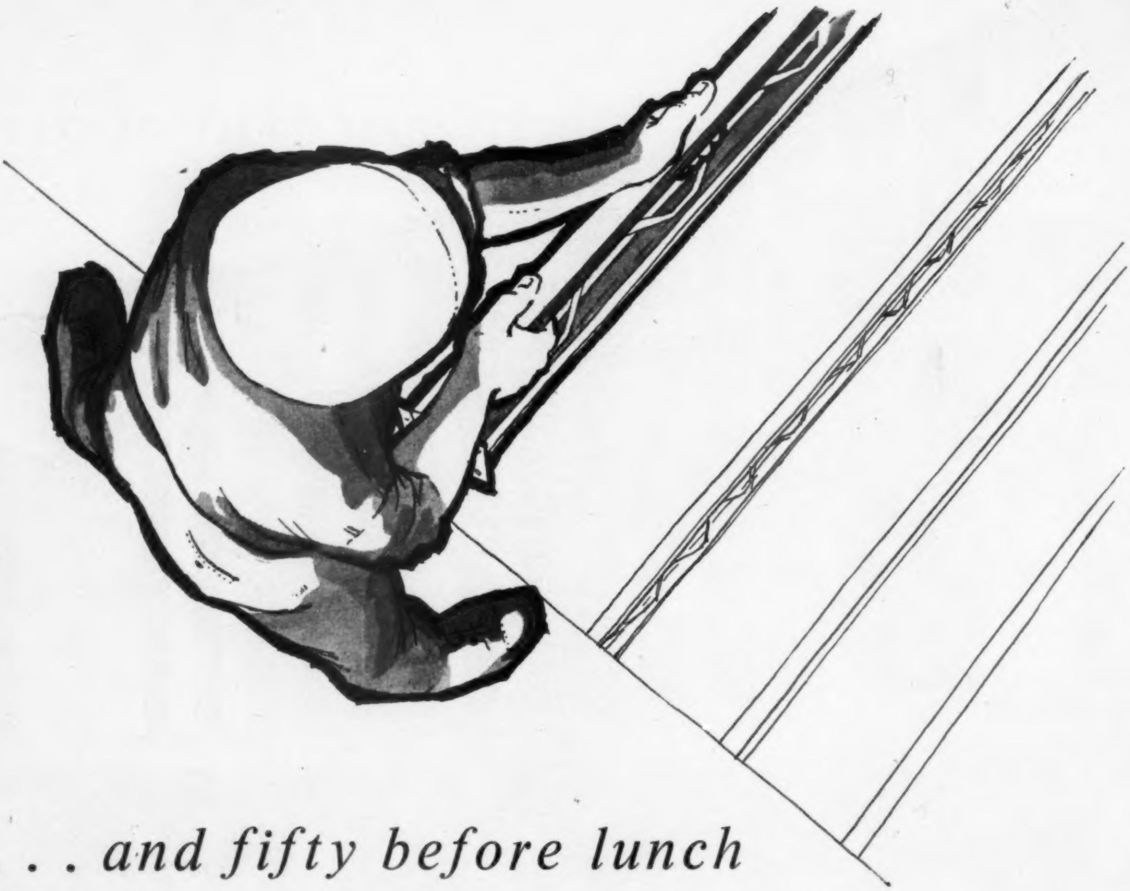

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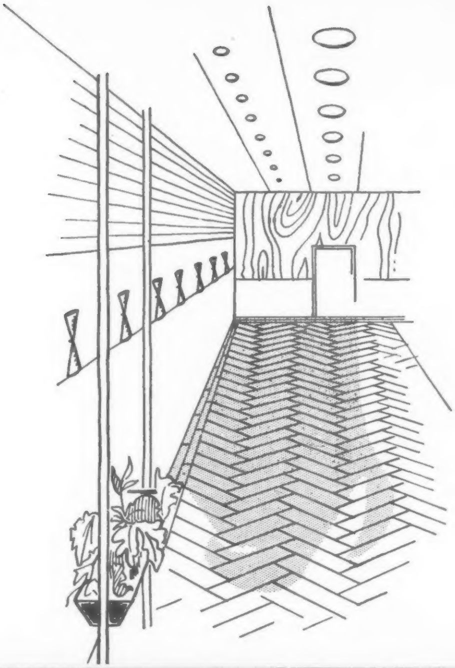

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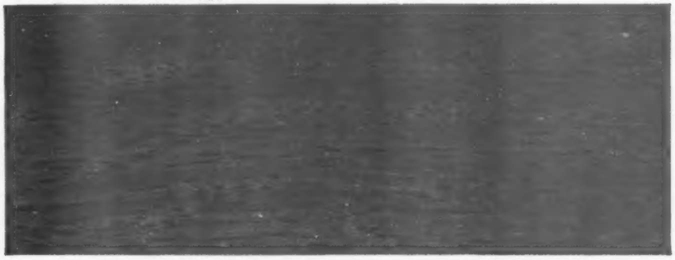

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NOT QUITE ARCHITECTURE

# *LATE HOLIDAY*

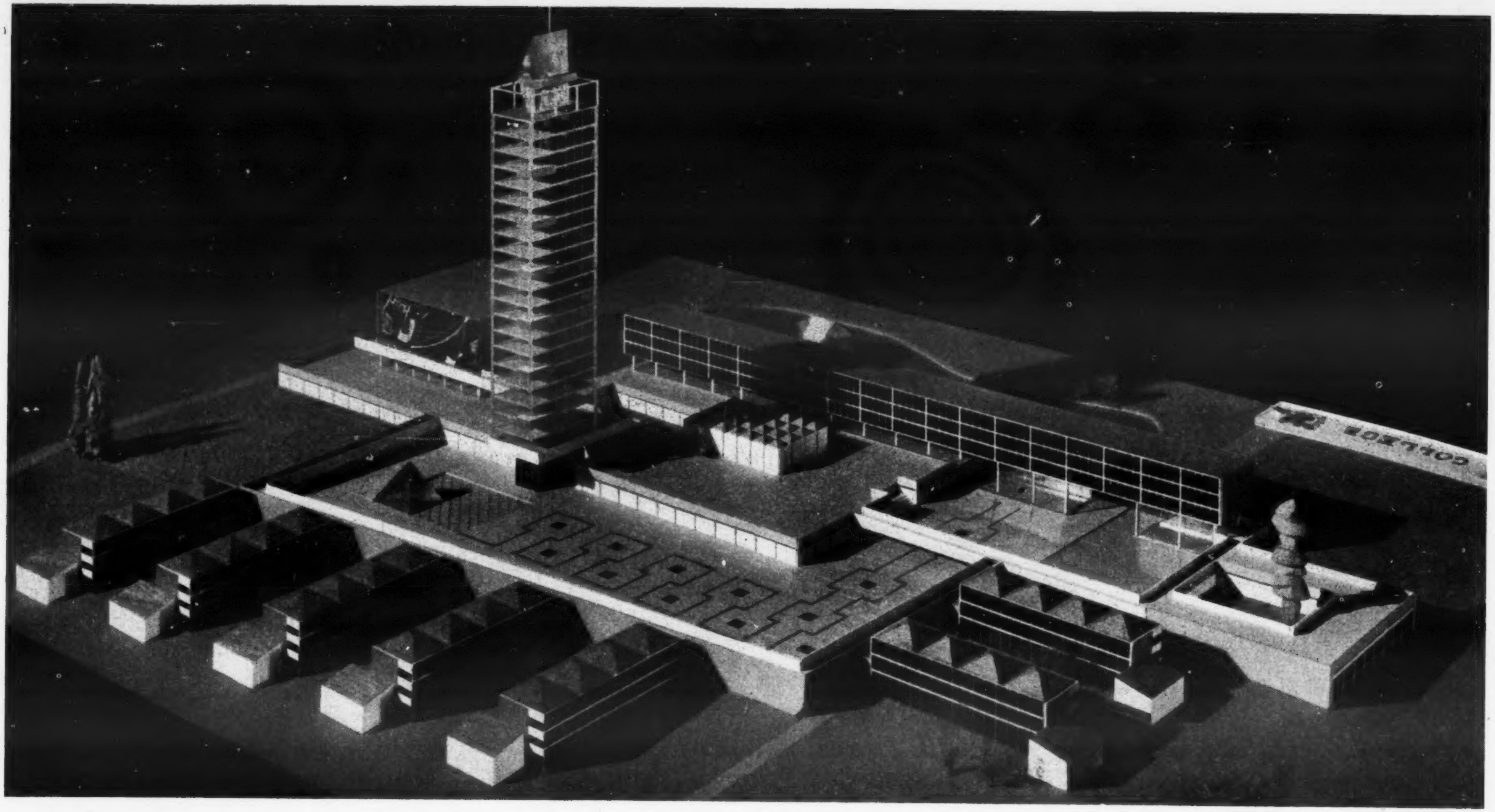
Tangier—all I knew about it was a confused memory of Jean Gabin (or was it Charles Boyer?) inviting a young woman to accompany him to the "Casbah" and a notion that it was *the* place for dubious international deals and tax evasion in surroundings of Oriental mystery (or was it Algiers, after all?).

*

In fact I found at Tangier a superb wide beach, palm trees, international style night clubs and American bars; and English visitors, including a Norfolk farmer and his wife. Modern Tangier consists of dull reinforced concrete hotels, heavily balconied blocks of flats with shuttered windows, Mediterranean style shops and "English" tea rooms (tea bags labelled "Pickwick Tea"). Shop signs are in French and Arabic. Neon tubing really comes into its own in Arabic script. Big cars are American, little ones English. Everyone seems to speak four languages, Spanish, French, Arabic and English and there are two currencies—pesetas and Moroccan francs in the most atrociously picturesque notes I have ever seen. Money changers abound. Since Independence two years ago, they tell you that the Spanish are leaving (back to Spain?) and the peseta will die out.

*

But the tourist's Tangier is not here; it is in the Medina, the old city of climbing and twisting 6 ft. alleyways full of hurrying people. Tiny ground floor shops, apparently with no access except to the street; overhanging upper floors, patchy rendering, white or glowing blue, and everywhere flapping photographs of the new king, Mohammed V, stuck on the walls and in the backs of shops. Everyone seems to be named



# A New Coventry University?

Coventry City Council has decided to campaign for a new University in Coventry, and to make a site available on the south side of the city. The model above illustrates the scheme which Arthur Ling and Stewart Johnson have prepared privately. In the foreground are the seven Halls of Residence which, together with the educational buildings, are grouped around a quadrangle. Behind the quadrangle are the students' dining and common rooms, the roofs of which provide a promenade at the higher level. A 21-storey tower block contains the main teaching facilities for seven departments, and to its left is the Great Hall which combines the theatre and assembly rooms. In the background is the longer four-storey science and agriculture block. On the extreme right is the department of architecture planned around a courtyard which provides a setting for a sculptural group which appears to be about 60 ft. high. Ling and Johnson's scheme is highly commendable as a propaganda *esquisse*, intended to put life into the idea of a new university, and should establish from the start that it should be designed in a modern idiom. One does wonder, however, at the cost of the piazzas, whether the teaching tower would work, and why the Halls of Residence are sited as they are. More serious is the question whether the right place for a University is not near the heart of the City. Coventry's proposals, however, deserve serious examination.

Mohammed. In this part of Morocco, the fez is called a tarbush, worn with a wide sleeved woolly garment reaching to the ground with hood hanging down the back, rather like an academic gown. Shapeless "Arab" clothes sit on their wearers in a dignified heap, like the patient balance of panniered donkeys. Moslem women wear the veil, an impressive folded headdress like an Egyptian mummy and a floor length gown, but sometimes ultra smart high heeled shoes peep out. If the veil is well up, they are married. A taxi driver told me that his one wife (only the rich have more) wore European dress when she felt like it. "Democracy" he shrugged. Men and boys are all expert spitters.

*

The buildings of the Medina would delight the *Architectural Review* and scandalize any English sanitary inspector, although I noticed manholes and stopcock covers which might please both. There are cook-shops where fish and kebab sizzle over clay bowls of charcoal. Corn chandlers sit behind their neatly opened sacks of flour rice and tapioca—and always seemed to wear spectacles. If you peer into the dimmer caverns you see leatherworkers cutting out the bags, wallets, slippers and cushions that are sold by roaming Arab boys. You can buy brocades, tarbushes, carpets and brilliant fabrics. You also find shops that would not be out of place in the Kentish Town Road—the same suits, shirts, ties. There is a Monoprix store where the girls have exactly the look of dreamy indifference to be seen in any Woolworths—and sell Tide and packaged cheddar cheese as well as dates and olives. At strategic corners sit decrepit Arabs with wooden trays of coloured powders—saffron, paprika, cayenne and cinnamon—one peseta for a spoonful in a screw of (most likely English) newspaper. There are scent shops where Arab women queue to have a scent made up for them and the owner will spray you to saturation with "Lucky Strike" before you can draw breath to ask for what you want.

*

Individual buildings in the Medina are rarely interesting, here and there a good wrought iron balcony or elaborate doorway, but real satisfaction is in the close packed density that has come of a compact society, where the symbol of privacy has no meaning, and the weather is always friendly. The people too.

*

It's a good place for a holiday, but if you go, avoid staying in Gibraltar—even for one night.

JOHN CARTER.

## The Editors

## AN EXTRAORDINARY OMISSION

NOTHING but whole-hearted approval can be given to the bulk of the recommendations of the interim report of the RIBA Constitutional Committee (see last week's *AJ*). The first, basic, point is that all members of the RIBA council must be *elected*, either nationally or regionally, and by postal ballot, which avoids the embarrassment or favouritism possible with allied society show-of-hands voting. The Allied Societies, it is proposed, will receive an influx of new blood with all RIBA members automatically becoming members of their appropriate Allied Society, which is certainly a good thing—and they will possibly get, therefore, an influx of RIBA subscription rebates (we suggest that some machinery for checking allied society expenditure should be introduced to ensure that not all the subscription money is used for mere social events). Although it is not specifically stated, it would seem from these proposals to be possible for allied societies to reduce the load of work on their Presidents by electing another member of their council to be their representative on the RIBA council for the proposed three years, thus enabling the President to concentrate on local affairs. It is obvious that the allied society President, who may only attend RIBA council meetings for one or two years, is at a disadvantage compared with the nationally-elected members who are on for at least three years, and are therefore not only more familiar with council procedure but able to press their policies with greater ease over a longer period.

The next big, and potentially fundamental, issue is the proposal to work towards setting up a Federal Consultative Council of all Allied Societies overseas. There are great possibilities here for architectural advance on an international scale.

The time is also ripe to drop the distinction between the classes of membership—licentiate, associate and fellow—on the council. The distinction between them would now seem to be meaningless. Licentiates are a dying class anyway, and the RIBA needs the best people possible on the council, irrespective of class of membership. But the committee have thrown out more than the differentiation of classes of membership, they also reject any differentiation by categories of employment or occupation. As proposed, future councils will tend to consist of the best nationally or locally-known architects (except when the occasional crises enable an outsider to come to the fore). And architects are almost bound to be principals in private practice or chief architects in local authorities. So the danger is that future councils will be even more exclusively packed with bosses. It will be a very brave assistant who is prepared to stand in opposition to the Allied Society Council nomination, particularly if he is in the nominee's employment. Such embarrassment would be avoided if it was made obligatory that a fixed minimum proportion of the RIBA council, and [possibly of Allied

Society councils, should consist of assistant architects. The objection may be raised that if one allows a proportion of assistants, then why not a section of county architects, city architects, commercial architects, builders' architects, and so forth? Well, why not? Obviously the council may not be able to include every category of architect, but it seems no worse an ideal than including representatives from every geographical region, especially as these representatives are not supposed to discuss Portland Place affairs with their members, and bearing in mind that no society adequately represents the 6,000 architects in London and Middlesex.

It seems particularly odd that no direct representation is proposed for the new Local Government Architects Society on the RIBA council. If these two bodies are to work together, and not drift apart, it is surely essential that a permanent link is forged.

It is a sad but inevitable event, and probably the final blow to it as an architects society, that the ABT should lose its representative. It is odd that the AA is not asked to elect its representative to the RIBA Council, just as every other society has to, this seems to be carrying sentiment too far. But it is alarming and extraordinary that no positive steps have been taken to ensure even the minority representation on the council of the submerged two-thirds of the profession.

## PRECISE OBJECTIVES NEEDED

The great merit of the Government's five-year school-building programme is that it should enable local authorities to plan a continuous programme over this period, instead of planning from year to year. The increase in expenditure proposed is modest. Work started in the next five years is to cost £300 million, or £50 millions more than the sum actually spent in the past five years. The sum to be actually spent in the five years 1960-65 will, of course, be less than £300 million. The value of work started is to rise in 1960-61 to £55 million, and in 1961-2 to £60 million. The main programme will be to complete the reorganisation of the remaining all-age schools, there will be improvements in existing secondary schools and, at long last, the replacement of the worst of them, a few new primary schools to meet local increases in population, and increased expenditure on minor works.

As the pressure of numbers will subside during these five years the government rightly says that this provides an unparalleled opportunity for carrying out a vigorous policy of improving our schools. But the White Paper does not furnish the information on which one can judge whether the five-year plan lives up to these brave words. It is remarkably vague in some ways: "many" classes are too large, "many" schools are housed in sub-standard buildings, "a large number" of secondary schools need more space and better equipment. But how many? If Britain is really to catch up with other nations that have out-distanced us educationally the plan should have much more specific objectives.

ASTRAGAL
NOTES & TOPICS

### VOTES FOR ALL?

ASTRAGAL'S first thought, when he read the announcement of the RIBA Council that no resolutions would be passed by the Special General Meeting on the report of the Constitutional Committee, was to foresee a procedural shambles. Apparently the Council, which is far too ready to run for legal advice to settle questions that have more to do with commonsense than with law, was afraid that a resolution would commit the Council and bind the Institute. The "feeling of the meeting," it was said, could be ascertained by taking note of the speeches made.

*

Of course, the only way one can take the feeling of a large meeting, on a complicated question with 21 recommendations, is to allow it to vote. This need not bind anybody if the chairman makes it clear that the vote is no more than a valuable expression of opinion on a provisional report. Happily, second thoughts seem likely to prevail. The Constitutional Committee is said to have recommended that votes should be taken at the end on its recommendations. This makes it all the more important that RIBA members should come to the meeting (on January 6), vote, and refrain from wasting time in meetingsmanship.

### AA PRECEDENT

The AA has taken a step without

precedent (in ASTRAGAL'S memory) and has called a meeting (December 30) of members and students to discuss the report of the RIBA's Constitutional Committee. As the committee has singled out the AA for representation on what is to be, in all other respects, an elected Council, ASTRAGAL is relieved to see that the AA recognizes the corollary—that AA members should have a chance of knowing what their representative on the RIBA Council is doing, and of discussing RIBA affairs.

### RAMBLING FILES

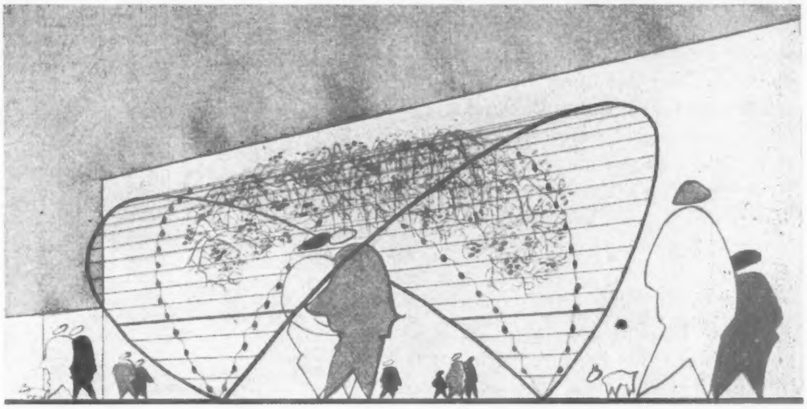
ASTRAGAL, who is always glad that no one asks him to adjudicate trade literature, went to the Building Centre the other day to see the latest selections. Half the winners reveal the influence of the JOURNAL'S Information Sheets. But on the whole, the trade seems unwilling to make a clean-cut distinction between providing information and promoting sales. Too many of the winners look more like throw-aways than references for filing.

*

Still, the good work goes on, and it is pleasant to see entrants conforming to the 'A' series taking their rightful place alongside those conforming to the old temporary standard. Incidentally, the Editors have asked me to correct a mistake made last week when it was said that " no award was made in the highest class," meaning no award (*i.e.*, of Certificates of Exceptional Merit) in Class I. In fact Class I and Class II relate to the different categories of entrant and are of equal standing.

### EXCUSE TO GET LIT UP

Next year the three founder members and the 2,500 later members of the Illuminating Engineering Society celebrate their Golden Jubilee with nationwide dinners, discussions, conferences, exhibitions and lectures. This useful body, which tries to see that we are adequately and artistically daylit and lamplit at home and at work, claims that good street lighting reduces road accidents by 30 per cent. and that a " unit " of light costs only 1/600th of what it did 50 years ago. A member told me that ideally *all* roads would be lit by street lamps. What a prospect for Ian Nairn, Sir Albert and John Betjeman.



*A mistletoe arch made in England for Sweden. See " Britain's Arch Present."*

### GOOD DESIGN ON THE VERGE

The Ministry of Transport, which turned down the Oxfordshire CC's idea of dual-track road signs in white on black, has adopted the idea (including caps and lower case for town names) for the Preston Motorway, with the slight difference that the background is blue. Let us hope that these signs will be used elsewhere, though it's true that they are expensive and that there often isn't enough verge space for them.

*

The Minister's advisory committee recommends not more than four, and preferably two, place names on any sign, and it is difficult to believe that any driver needs four seconds to read this much. How fast do you have to go before signs become subliminal?

### BUT IT CAN'T SEE YOUR ETCHINGS

ASTRAGAL had a good time at the Olympia show of Electronic computers, seeing how the dimensions on a drawing can be listed on a system of coordinates based on a datum point in the bottom left-hand corner, punched on tape and then fed into a controller which tells the machine what to do. (Read again slowly several times). He found that in the same sort of way electric typewriters can post stockbooks and send out bills—and the typewriter that will produce letters direct from speech is not all that far off. Any of you secretaries who are reading this—to tell your boss " if there's anything in ASTRAGAL this week "—will rightly snigger. Such machines are only for those who know what they want to say first time.

### BRITAIN'S ARCH PRESENT

The Christmas spirit has brought Vallingby and Stevenage together with an exchange of Christmas gifts. Vallingby has presented Stevenage with a Christmas tree, representing a typically Swedish Christmas. Stevenage has presented Vallingby with a mistletoe arch (above), composed of a bright blue tubular steel arch with yellow plastic cords, from which the mistletoe and lights are hung. This is supposed to represent a typically English Christmas. It is surely a typical Englishman's idea of a typical Swedish Christmas.

### IS THEO LOGICAL?

ASTRAGAL welcomes with pleasure a squat square periodical, *Uppercase*, edited by someone who is neither squat nor square, Theo Crosby, of *Architectural Design*. The object of the exercise seems partly to demonstrate the virtuosity of the Whitefriars Press, who are backing the venture, and partly to get the *This Is Tomorrow* boys on record for posterity.

*

The first issue has large slabs of Eduardo Paolozzi—sculptures, colleges and even what appear to be poems; John McHale, collagist, whom we remember as Buckminster Fuller's impressario, and Magda Cordell, who has been described as England's only lady brutalist.

*

Sandwiched between all this *art brut*, is a scholarly piece by David Piper on Elizabethan art. There must be some connection. For three-and-sixpence you can puzzle it out for yourself.

### PRECIOUS CARGO

The most notable feature of the ICA's recent cut-price flight to Paris to view UNESCO, was the number of Top

People who took advantage of it. Among the architects were Yorke and Rosenberg (Mardall must have stayed behind to keep the office aired), Denys Lasdun and Frankland Dark. Among opinion-moulders were Roger Coleman, of *Design* magazine, Reyner Banham, and Lawrence Alloway, deputy director of the ICA. They were joined at UNESCO by Roland Penrose, Picasso's Boswell.

*

Apparently the regular UNESCO guides found this lot a bit of a handful (particularly after they had also found Leslie Julius of Hille furniture), and large sections of the party were continually being left behind while they fingered the detailing, turned up the seats, fiddled with the lights and generally gave the place the once over. Their response does not sound very enthusiastic, and opinions about the building seem very mixed. You will find those of J. M. Richards, who did the building on his own, the hard way, on a different occasion, on page 856 of this issue. All, however, seem to have been impressed by Gatwick as a going concern. Most were actually *using* the place for the first time.

**TELFORD RETOLD**

L. T. C. Rolt has followed up his biography of Brunel with one of Telford*, which is just as good in its way, though Telford's career lacked the dramatic highlights of Brunel's. Rolt is a little too inclined to hero worship (surely, even allowing for the difficulties of the times, some of Telford's financial estimating should have been a bit nearer the mark), but this is good popular biography which is as least as interesting to the layman as to the engineer.

*

Incidentally, is there any budding architect-writer who can popularize the lives of architects? And which architect ought he to start with? The Adams brothers, perhaps, John Nash, Pugin? Perhaps this is a job for the RIBA's public relations boy, when they get one —poor chap.

**CHROMIUM TAILPIECE**

Apparently there is no truth in the story that the recent attack on a chromium-mine in Cyprus was an undercover operation by the Council of Industrial Design.

ASTRAGAL

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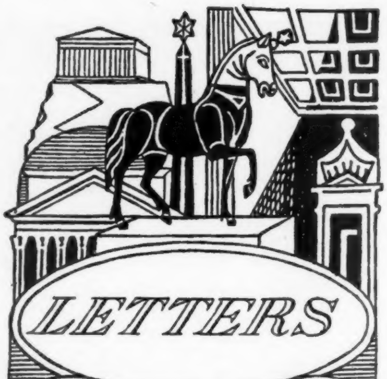
* *Thomas Telford*. By L. T. C. Rolt, Longman Green & Co., Ltd. 25s.



*Leonard C. Howitt*, F.R.I.B.A
*J. R. Dewhurst*
*Cecil H. Dennis*, A.R.I.C.S.
*Arthur Johnston*, A.R.I.B.A.
*Richard F. Fenner*, Student, R.I.B.A.
*J. H. D. Wickham*, A.R.I.B.A.
*Peter Matthews*, A.R.I.B.A.
*Senior Construction Lecturer, AA.*
*John M. P. Price*, A.R.I.B.A.
*Toni Scott*

## The Supplanting Developer

SIR,—Peter G. Elphick, in the course of his letter under this heading in your issue of November 27, states: ". . . unless he is an 'architect' he has no power to use the RIBA form of contract to protect the developer's client."

Unfortunately this is not correct; regrettable though it may appear to be, the legitimate use of the RIBA form of contract is not restricted to registered architects. The Articles of Agreement make provision for naming the person who is referred to in the document as "the Architect" and it has been ruled that it does not constitute a breach of the Architects' Registration Acts for an unregistered person to be referred to in this way.

Indeed, the forms "specially adapted for the use of Local Authorities" include a footnote to the effect that in cases where the works are to be carried out under the direction of an official of the Local Authority, the names of such officials as are to *perform the respective functions* of "the Architect" and "the Surveyor" under the contract are to be inserted.

Thus the Employer and the Contractor benefit by the use of the form but it cannot be used as an instrument to ensure the engagement of a Registered Architect.

LEONARD C. HOWITT.

Manchester.

## Self-satisfied Architects

SIR,—I frequently read your JOURNAL with interest, amusement, amazement and irritation, all of which may be good for me. I am prompted to write to you by your critique of a Lutheran church. You comment that many architects, whether believers or not, are pleased to have the opportunity to express themselves with the freedom permitted by the planning of a church.

It is a pity that they do not always understand the use to which the church is to be put. In this area there is a new church in which no provision has been made for music of any kind and it is reported that the architect hoped that no one would spoil "his" chancel by installing an organ! Furthermore, the altar rails are so close to the altar that there is no room within the rail for two priests to officiate during Holy Communion. While it is true that the general appearance is good—the church, at least within, looks like a church—it is more important that it should be used like a church and in consequence capable of such use.

Judging from the photographs of churches which you publish from time to time, there appears to be a trend among modern architects to forget that the spire is traditionally a pointer to higher things. They appear to be confusing it with an earlier symbol associated by the heathen with fertility rites.

Finally, sir, if "a font should look like a font" should not a house look like a house? You ask in one copy, "Why is this house considered unworthy of these?" Is not this the wrong question? Whiskey is neither worthy nor unworthy of wine but it is perhaps unwise to mix them! The freedom of the individual in a civilized community must be subject to his not offending the remainder of the inhabitants. Their combined freedoms must be considered in association with his.

It seems to me, a chemist by profession, that architects, as exampled by your JOURNAL, are a self-satisfied lot who cannot see the other person's point of view. Is that why so many potential clients of architects dispense with their services?

J. R. DEWHURST.

Brentwood.

## The Danger of Elemental Bills

SIR,—Further to the article concerning elemental Bills of Quantities (AJ, November 13) I would like to express my feelings about these documents, without prejudice against preparing such a bill.

We are all aware that the prime purpose of a Bill of Quantities is for estimating the cost of a project after which it is merely a schedule of prices for variations to the contract. The builder's estimator's time is scarce and the fewer items he has to price the smaller the risk of error, than when items are repetitive. The contractor is only really interested in the final account and the proper adjustment of prices from one set of prices contained in a normal Bill of Quantities.

The contractor will organize his progress of work to suit his own method of building, therefore I cannot see how an element bill will help on the site, except for learning what is included in each element. I would have thought a normal Bill of Quantities *properly* annotated would serve the same function on the site as an element bill, provided such expressions as "Generally," "As necessary" and "As required" were not used.

The case for elemental bills is that it is helpful to an architect for cost analysis. I am against architects having a priced bill of quantities, simply because "a little knowledge is a dangerous thing." He may want to know the price of brickwork per yard super, he finds that it cost xs. per yard super. Extra amount of brickwork is y yards super, therefore xs. multiplied by y yards super is £z; *but* he may have forgotten all the various other items concerned with brickwork through his lack of knowledge of what is contained in the Standard Method of Measurement and the percentage error could be large. This type of error can easily occur with cost analysis and could be serious, particularly as many people have different ideas in preparing an element bill of quantities.

I feel that a quantity surveyor should work in close co-operation with the architect from the conception of a project. A quantity surveyor usually keeps a record of cost analysis for all his jobs (elemental costs, cost per foot super and foot cube and storey enclosure, etc., etc.) depending on the method used by each individual quantity surveyor and teamwork between quantity surveyor and architect would produce a far more satisfactory result.

Any inconvenience caused to other people by the element bill of quantities would be eliminated and cost analysis left only in the hands of those whom it really concerns.

CECIL H. DENNIS.

Leicester.

*The house referred to in the letter below.*

## Planning—or Snobbery?

SIR,—The proposal to allow an architect in cases of dispute to attend and present his scheme to lay members of a planning committee, as suggested by Walter Segal (AJ, November 27) is in practice in Cumberland.

Recently one of my designs for a house was rejected by a District Council Planning Committee on the grounds that the house would detract from the amenities of the locality. This decision was made against the advice of the County Planning Officer. On the invitation of the Committee I attended a meeting where I explained and discussed my design in detail. The Committee then decided in favour of the development which was recently illustrated in the Official Guide to Cumberland. This direct and personal arrangement between the county planning officer, planning committee and architect avoids delays and cost of public enquiries, and creates an understanding of architects designs.

I do not agree with the proposal "to introduce an outside expert to increase the chances of a decision on merit instead of a decision of action," as only the architect himself can justify his design, but agree that opportunity should be given for students to have experience in justifying their designs to laymen.

ARTHUR JOHNSTON.

Carlisle.

## Polytechnic Georgian?

SIR,—I challenge Mr. Segal to find any Georgian architecture within the studios of The Polytechnic, Regent Street.

RICHARD F. FENNER.

## Bye-law Control

SIR,—I recently submitted to a local authority, plans for the construction of a building to cover ship-building slips. The building, arranged rather like two Dutch barns placed side by side, some 30 ft. to eaves, 40-ft. wide bays and 160 ft. long, was to be steel framed. The roof and walls, to within twelve feet of the ground, to be covered with corrugated asbestos.

One side of the building is on the boundary of the site, another is within twelve feet, and of the remaining two, one terminates in the water and the fourth is within the shipyard.

The local authority have intimated that this building, as it is more than 100,000 cubic feet in volume, and is within forty feet of the site boundary, shall have its steel stanchions suitably protected to give a fire resistance of two hours.

According to the bye-laws it does appear that such a building, if it comes within the warehouse class and is sited as this one is, should be given a two-hour fire resistance grading. At the same time it does seem to me to be unnecessary, when one takes into account the use to which the building will be put.

Has any reader had a similar problem within the last few years, or since the bye-laws were revised in 1953?

J. H. D. WICKHAM.

Bideford.

## Planning From The Air

SIR,—In your account of the AA aerial experiment, "Town Planning from the Air," Ian Nairn makes no mention of John Killick, the Fourth Year Master who originally conceived the idea.

PETER MATTHEWS

London.

## An Intriguing Miss

SIR,—I was delighted to see ASTRAGAL's reference to the eminent architect Les Corbusier. It reminded me of one of this months glossies (you know, the one that is so good on colour), which showed some chairs designed by Mies Van der Rohe.

JOHN M. P. PRICE.

Essex.

## Marrying An Architect

SIR,—Marry an architect if you must; but do not think for one moment you will be allowed any say in the choice of F & F for your own home. The only part of the house you'll be trusted with is the housework: a house is not a home to him, it's a "challenge."

From the colour of your walls (white) to the shape of your chairs (uncomfortable), it will be his taste you will be living with from that moment on. You wanted printed curtains in the bedroom? Are you insane, woman? There *is* only one material for curtains—this year—noil, in its natural state. Not even the flowers you buy will please him: sweet peas, such a messy shape! Try daisies, something *basic*.

You will come home from time to time to find all the furniture switched around, as he has for no apparent reason decided that the space (room) was not being used to the best advantage, and he has decided to use another area (window recess to you, dear!) for the day-bed (divan).

Don't be lulled into a sense of false security by the frequent use of the word planning—this only refers to big things, like "town and country." Never let him plan a picnic or dinner party—he'll forget all the glasses, and turn up when it is all over, with the excuse that he had to see an engineer and couldn't get away. Not being able to "get away" is the stock architectural excuse. The only people they are not afraid to make excuses to are their wives! No architect has ever been punctual; their offices operate between the hours of 11 a.m. and midnight—or later.

Architects never actually look at the people they are talking to; they live in a world far removed from sordid everyday matters, in some rosy future where the buildings they are planning are finished and photographed, looking as they never will in life, for one of those beastly magazines that they *will* pick up and read when one takes them out to dinner in other people's houses. At parties they stand about talking you-know-what to another you-know-who, while their womenfolk gather in depressed little huddles, wondering why no architect ever learned to dance.

Every woman who marries an architect is forced almost to the point of qualifying as one herself, in order to be able to talk to her husband at all. Sometimes the urge to tell them the truth about themselves and their dreary profession is overwhelming. But somehow every architect has that little-boy-lost, Jimmy Stewart appeal; and one just goes on letting him believe he's the very hub of the universe!

TONI SCOTT.

London.

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## DIARY

*A Visit to China.* Talk by Eugene Rosenberg at the AA, 34, Bedford Square, W.C.1. 6.15 p.m. DECEMBER 11

*The Great House on the South Side of Soho Square.* Talk by Mrs. M. P. G. Draper, B.A., and Walter Ison, F.S.A., at an RIBA Library Group Meeting. At the RIBA, 66, Portland Place, W.1. 6 p.m. DECEMBER 15

*America's Crystal Palaces.* A survey by Ian McCallum, at the ICA, 17/18, Dover Street, W.1. 8.15 p.m. DECEMBER 16

*In-Situ Concrete Finishes.* Discussion at the RIBA, 66, Portland Place, W.1. 6.30 p.m. DECEMBER 16

*Articulation of Concrete Structures.* Talk by J. F. Field Smith, organized by the RCA, at 11, Upper Belgrave Street, S.W.1. 5.30 p.m. DECEMBER 17

*The Landscape of Greece.* Talk by Sheila Haywood, illustrated with colour slides, at the ILA, 1, Park Crescent, Portland Place, W.1. Entrance by ticket only, to be obtained from the Secretary, price 7s. 6d. 6.15 p.m. DECEMBER 18

*Special General Meeting to Discuss The Profession and the Proposed RIBA Constitutional Changes.* At the AA, 34/36, Bedford Square, W.C.1. 6.30 p.m. DECEMBER 30

*Out in the Mid-day Sun.* Two illustrated Christmas holiday lectures for boys and girls. By L. M. De Syllas. At the RIBA, 66, Portland Place, W.1. 3 p.m. DECEMBER 31 AND JANUARY 2

*Special General Meeting to Discuss The Interim Report of the Constitutional Committee.* At the RIBA, 66, Portland Place, W.1. JANUARY 6

## ARCUK

### *Formation of Limited Liability Companies by Architects*

This statement is issued on the instructions of the Professional Purposes Committee of the Architects Registration Council with the object of clarifying the decision given by the Council at their meeting on October 15 last on a scheme submitted by a firm of solicitors for the formation of a limited liability company by an architect client.

Judging by the number and variety of enquiries received by the Registrar following on reports in some sections of the Press, it is evident that there has been wide misunderstanding of the Council's decision.

The most important part of this decision, which was either inadequately reported or omitted altogether, was the Council's reaffirmation of Principle V of the Code of Professional Conduct which states as follows:

"An architect must not carry on his practice in the form of a limited liability company nor may he do any act which will have the effect of avoiding his responsibility to his client."

Completely contrary, therefore, to the interpretation that has been given by many architects to the decision, the Council *did not approve* the conversion of an architect s practice into a limited liability company.

The actual scheme submitted for the consideration of the Council provided for the formation by an architect of a limited liability company, which would buy from him his office premises, office furniture and equipment and give him shares in the company to the value of the purchase price of these assets; and whose main object would be the leasing of the office premises to the architect and supplying him with certain services (but *not* those of architectural staff) at an agreed rental.

The decision of the Council was that this particular scheme would not contravene Principle V of the Code, provided—the Council added to avoid any possible impingement by the company on the architect's professional practice, or encroachment on the Code—that

1. The architect carried on his professional practice in the normal way, personally entering into contracts with his clients;
2. Neither he nor his staff were employed in their professional capacities by the company;
3. He did not divest himself of any of his professional responsibilities, or attempt to transfer any of them to the company; and
4 The operation of the Company would not bring him into conflict with any of the Principles of the Code, particularly numbers VII and VIII.

It is important to note that since the Council neither devised, adopted, nor sponsored the scheme, they are unable to furnish any particulars regarding the formation of such a company or of its effects on the income tax liability of architects who might wish to adopt the scheme. The sole concern of the Council in the matter has been to ensure that the scheme does not transgress against the Code.

## MOE

### *Five-Year School Building Programme*

The Ministry of Education announces, in a White Paper *Secondary Education For All: A New Drive**, a continuous building programme for primary and secondary schools in England and Wales from 1960-61 to 1964-65. The value of projects started in 1960-61 will amount to £55 million and in 1961-2 to about £60 million. It will be the government's aim to get work costing £300 million started in the five-year period. So far as major building jobs are concerned, the first part of the programme covering the two years 1960-61 and 1961-2 will be settled with the local authorities and the Churches as soon as possible. For Scotland the programme for the same period is to cost £65 million.

After an optimistic review of the progress already achieved under the 1944 Act, the White Paper states that the next five or six years present an unparalleled opportunity for carrying out a vigorous policy of improving our schools, freed from the sheer pressure of growing numbers.

The White Paper outlines two tasks. The first is to remedy the defects of individual schools: many classes are still far too large; many schools are still housed in old buildings that fall very seriously short of the standard of the best school buildings of today; in particular a large number of secondary schools of all kinds need more space and more up-to-date equipment for the teaching of science; and some 7 per cent. of senior children are still in "all-age" schools. The second is to eradicate the most general defect in secondary education —the root cause of the concern over the 11-plus examination namely, the fact that too many children of approximately equal ability who are receiving secondary education in schools differing widely in quality and the range of their courses. After giving the Government's views on secondary education the White Paper describes the five-year programme as "a first essential step."

An immediate increase is being made in the volume of minor works, for which the cost limit is to be raised from £10,000 to £20,000. The main programme will be designed to complete the reorganization of the remaining "all-age" schools, in which there are still about 150,000 pupils of 11 and over. About a third of the rural reorganization programme launched four years ago remains to be started, and there will be a specific programme of urban reorganization of "all-age" schools.

Resources will also be found for improving conditions in existing secondary schools. Some are secondary schools only in name, or are accommodated in buildings long since out of date which it would not be sensible to improve where they stand; these must be replaced. Others are overcrowded, and relief is essential. Others lack some facilities needed for proper secondary education, above all in scientific and technical subjects. A limited start has been made on improving scientific facilities, but much more needs to be done to make the older schools comparable with the new ones.

Both grammar and secondary modern schools have urgent claims, and each local authority will be asked to tackle first those jobs that will most quickly improve the secondary school provision for its area. While recognizing that much remains to be done in primary schools, the government considers that the secondary schools are a more urgent problem. But the programme will allow for new primary schools to meet local increases in the number of children, or to replace the worst existing schools.

## SURBITON'S PROBLEM

### *Engineer, or Architect?*

By 23 votes to 7 the Surbiton (Surrey) Borough Council has decided to accept a proposal to appoint a private architect to submit an independent scheme to modernize and improve Surbiton Assembly Rooms (writes a correspondent). The interesting thing about this decision is that the Assembly Rooms Committee had approved a scheme suggested by the Borough Engineer, R. Thirlway.

Councillor J. A. Hay, the chairman of the Committee, said that to appoint a private architect would "set us back nine months." Councillor Alexander, who supported the appointment of an architect, said that the Borough Engineer's scheme was an ingenious way of making use of the existing fabric, and considered that as the Council's own officers knew the building intimately their ideas would probably be as effective as any by an architect. But the Council needed an architect for a scheme to make the Assembly Rooms look "less of a monstrosity."

## RIBA

### *Comprehensive Development*

Very large areas of our cities are in urgent need of comprehensive redevelopment, and a very much larger allocation of national resources is required if this country is not to slip into gradual urban decay followed by stagnation. This was one of the principal conclusions drawn from the post-war experience of comprehensive redevelopment by Percy Johnson-Marshall in his paper at the RIBA on Tuesday. While the technique of comprehensive redevolopment had proved sound, and its defects could be corrected without much difficulty, he considered that it had been hampered by procedural and financial difficulties. The reduction of exchequer grant from 90 per cent. to 50 per cent. in 1955 was a major set-back. The tempo had often not been rapid enough to sustain enthusiasm, too often housing had gone ahead while the planned open spaces or schools remained derelict, there had been insufficient research, developers had been reluctant to see the advantages of making development a combined operation with the planning authorities, more study was required into new forms of organization of team work.

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* HMSO. 9d.

On planning standards he considered that the general principles set out in the County of London Plan and the Coventry Central Areas Plan were nearly all valid and sensible; the daylighting code was an excellent form of check and control; the most sensible Plot Ratio figure was about 3-1, but it should be used more as a check-back than as a controlling factor; the residential density standards set out in the County of London Plan were a sensible enough basis for the redevelopment of large cities, although a good deal of local variation was necessary—high density concentrations in some places, low in others. Percy Johnson-Marshall suggested that the RIBA might recommend that the following action be taken:

1. As the technique of rebuilding cities by means of Comprehensive Redevelopment within the framework of programmed development plans (which are themselves part of overall regional plans) has been shown to be an essential element in improvement of the environment, many Comprehensive Development Areas should be created in the areas of highest priority.

2. A review should be made, at the highest level, of the Barlow, Uthwatt, and Scott Reports, and the succeeding legislation, partly to ensure that national policy in regard to planning is completely overhauled, and partly to see that financial difficulties do not stultify vital planning proposals, particularly in regard to Comprehensive Redevelopment.

3. Although a few cities have created technical and administrative organizations to meet post-war needs, many have not. The RIBA should offer its services to assist Local Authorities to set up the best form of planning and architectural organization. It should also discuss with the other related disciplines how the various experts can best contribute to the improvement of the environment.

4. Far more planning research is required into basic standards than is being done at present. A national organization similar to, but larger than, the former Ministry of Town and Country Planning Technique office is required.

5. The advances in the field of urban planning and building have shown that a new inter-disciplinary educational organization is urgently required. It is suggested that a new University Faculty, which could include the majority of disciplines directly concerned with this field, should be created as a pilot project.

## *Town Planning Award*

The RIBA Award for Distinction in Town Planning is the only award in town and country planning bestowed by the RIBA. It is by conferment only and is limited to Fellows, Associates and Licentiates of the RIBA. Outstanding work in design and layout, not only of individual buildings, but of groups of buildings, will be recognized. The Award will be made for actual planning work, and while not primarily intended for housing layouts, such layouts of groups of buildings would not be excluded.

Recommendations are submitted to the Council by a Standing Committee set up for the purpose. Personal applications by candidates will not be entertained; the name of a candidate must be submitted by three or more sponsors, themselves members of the RIBA, who will be required to submit details of the candidate's professional qualifications and experience and evidence of the candidate's actual planning work. Nominations may be made twice annually, on March 1 and November 1, and must be addressed to the Secretary, RIBA, 66, Portland Place, London, W.1.

## *In-situ Concrete Finishes*

The discussion on in-situ concrete finishes at the RIBA on December 16 (W. A. Allen in the chair) is the first of two discussion evenings organized by the Science Committee. The second is to be held on Thursday, January 15, and will be on suspended ceilings.

The discussion is to be introduced by J. G. Wilson. All members of the building industry are cordially invited to attend, to contribute freely to the discussion, and to bring slides (preferably 2 in. × 2 in.), and portable samples. The meeting will begin later than is usual for the Institute, at 6.30 p.m., in order that younger architects in particular may be able to attend. Beer, bread and cheese, and so on will be on sale in the foyer from 5.30 p.m.; members and guests alike are invited to eat at the RIBA before the meeting starts. No tickets are required, and admission is free.

## MOW and BRIXTON SCHOOL OF BUILDING

## *Operational Research and Building Management*

How to disseminate research knowledge more effectively—this was the main concern of a discussion organized by the MOW and the Brixton School of Building recently under the title of Operational Research and Building Management. Most speakers, from the floor as well as on the platform, appeared to agree that it was more important to do something about this than to extend the frontiers of new knowledge.

Dr. J. C. Weston of BRS, the first speaker, wondered whether we ought not to turn all research people over to the work of getting existing knowledge into practice. He began by referring to previous findings of his department—to the study of housebuilding productivity which had shown that incentive payments and programming were perhaps the two most important factors; to the study of plant economics made for the benefit of all builders; to packaged bricks, roller painting and pitch fibre pipes. He told us that while some blocks of flats took only 40 man hours per sq. ft. of floor area to build the structure and went up at the rate of one floor per week—others took twice as much time and man hours.

"The aim of BRS," he said, "is not to help produce the cheapest building, but to improve the balance of the trinity—appearance, function and cost." Towards the end of his talk he mentioned the slow progress of getting research knowledge into practice, and extended his definition of BRS aims. They were to "Bring about the technological changes in the industry, shown to be desirable by the findings of research." The Ministry of Works helped considerably in this work and so did the Building Advisory Service—but these organizations could have direct contact with only a few hundred firms a year.

T. V. Prosser (next year's president of the NFBTE) then gave his definition of management and a rather idealistic description of the perfect manager. He said that the very large building firms—being able to afford their own laboratories and technical librarians—were less in need of research than small and medium size firms. "These," he went on, "may file away BRS Digests and Reports as they come out, in the hope that they remember what and where they are when a problem arises. What is needed is information in a language that the man on site can understand—he is not interested in abstract problems. He wants to know *what* to do, *where* to do it and *when*."

Mr. Prosser's suggestion for this need was that each BRS report should be accompanied by a precis, in easy language, preferably illustrated by simple diagrams, to show what has to be done. He commended the MOW leaflets and Cement and Concrete Association "Man on the Site" pamphlets and ended with a plea for "more easily digested Digests."

C. A. Francis, of the Building Advisory Service, spoke on the allergy of builders to two things—capital expenditure and anything that they had not seen before. The builder's response to any new method suggested was "if it was that good, someone would have thought of it before." A builder will stick to methods he knows and think them the right way, simply because he knows them. Mr. Francis then described the tools of management and quoted the startling case of the ICI factory. The proposals for a new factory were given to the Operational research department of ICI to check. After several months of investigation they came to the conclusion that if two or three of the existing factories were changed to alter and improve their production, there would be no need to build a new factory at all. The saving in capital cost was about £½ million.

Coming back to the BAS, Mr. Francis said that his four years' experience showed that the introduction of programming techniques into building firms was no good unless its complementary techniques—work study, incentive schemes, calculated price build-up, etc.—were adopted as well, preferably with full and prompt instructions from the architect. "There should be an interlocking routine," he said. In four years his contact with over 250 firms had shown that no two were alike in methods or problems.

Contributions from the floor also concentrated on the dissemination problem. Stirrat Johnson-Marshall asked whether the trade unions could help and regretted that the "tremendous boost" in productivity development was not coupled with an enhanced value by all those involved of the end result. "We don't sufficiently share common aims in this," he said. F. H. Shrosbee of the ABT said the trade unions *were* interested—but did not report any firm proposals. David Woodbine Parish spoke of the innate human resistance to change and W. D. Bryant of the NFBTE pulled the legs of research workers for not being able to explain themselves clearly. "They use five words where one would do," he said.

D. A. G. Reid, principal of the Brixton School of Building, inadvertently raised a laugh when, asking for a show of hands to see what the composition of the meeting was, not a single quantity surveyor seemed to be present. There were about six architects—all the rest were builders.

He said that schools were often told they should teach more of the "why" and less of the "how" of building techniques. But knowledge of the "why" was often fragmentary and its significance for industrial application not clear. Operational research had made much of this knowledge "fall into pattern" because it is the link between designer and builder. His own post graduate courses on recent developments had evoked a "negligible" response—it might be better for the industry and professions to decide what they wanted and ask for it.

Questions from other speakers were about the educational level of site agents, TUC courses, the Sundridge Park joint course and definitions of operations.

JOHN CARTER.

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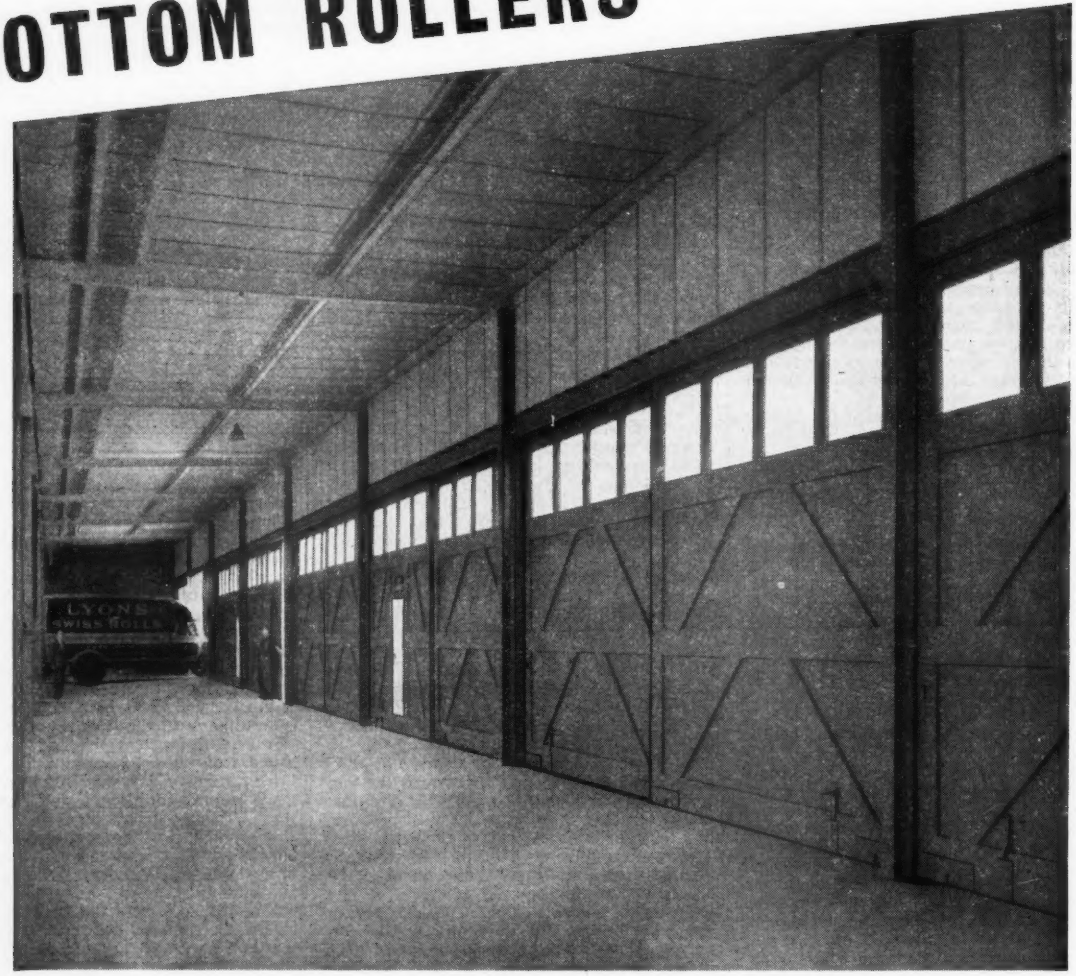

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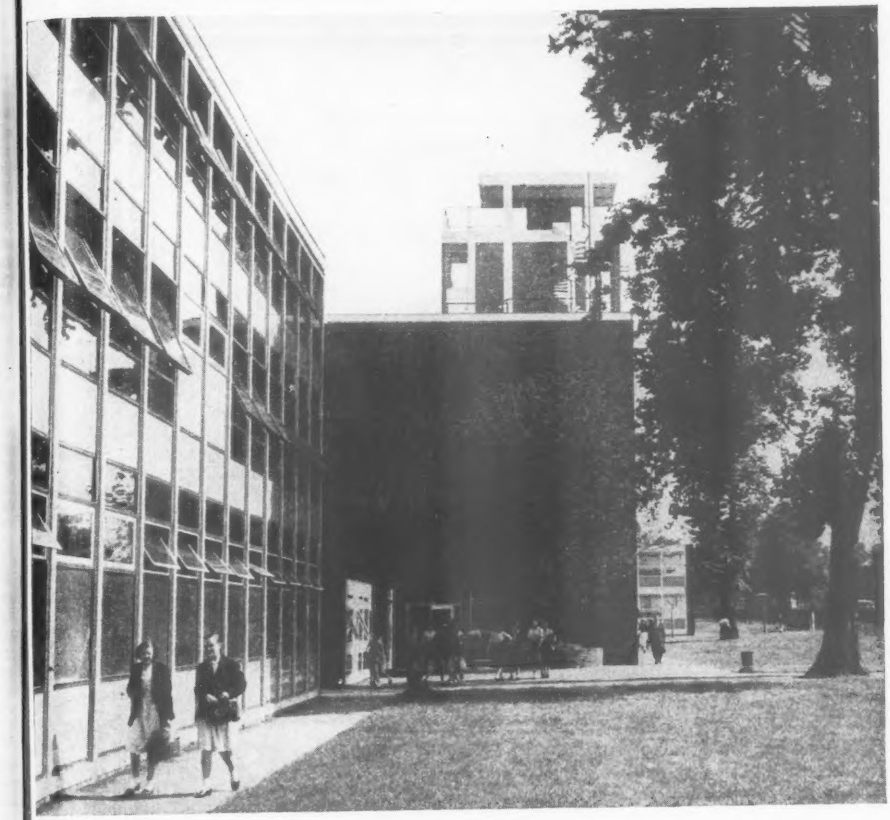
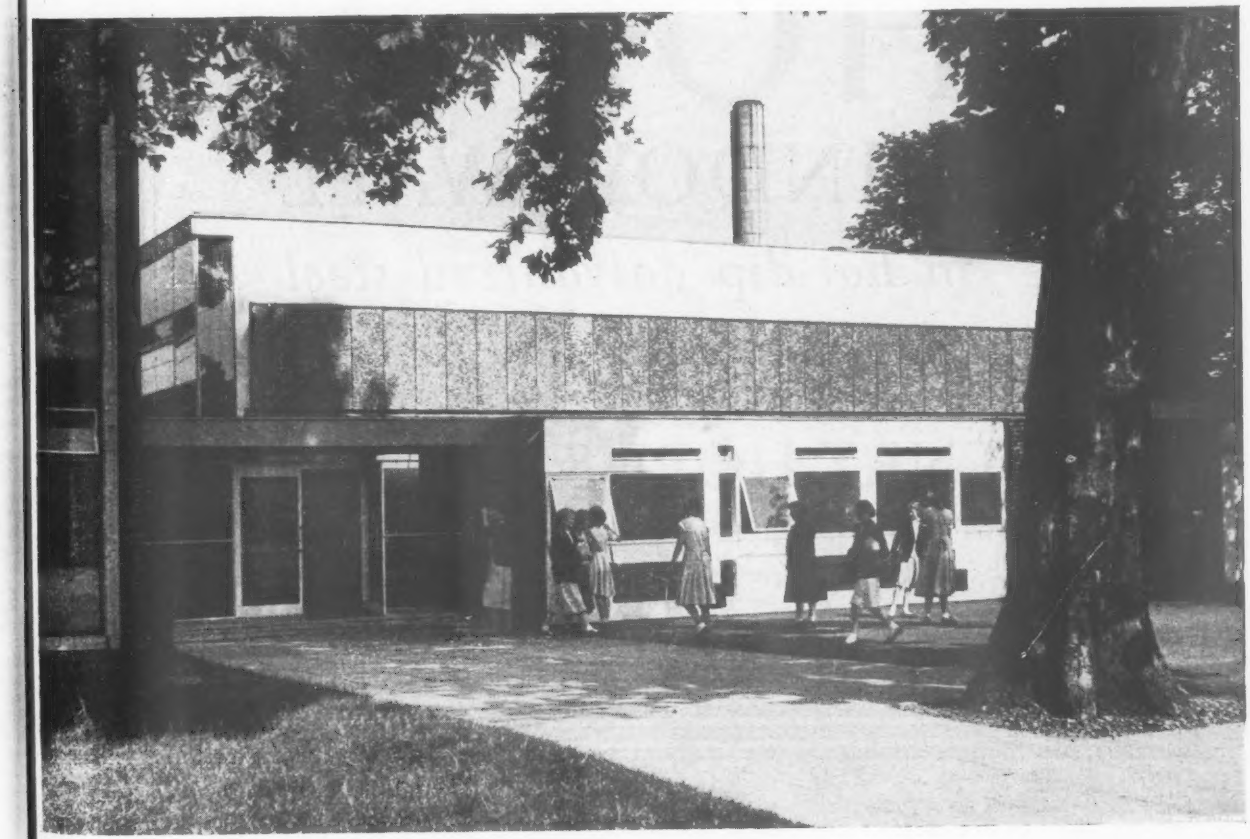
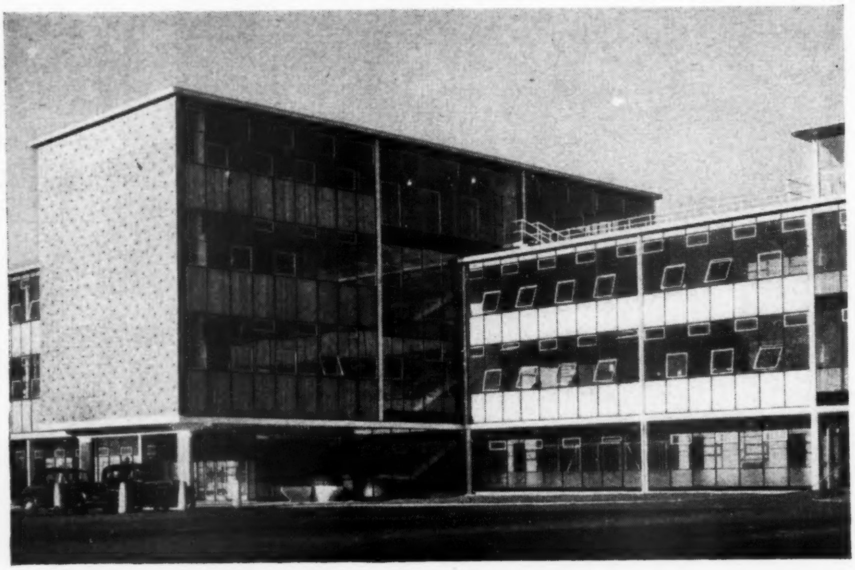
# COMPREHENSIVE SCHOOL FOR GIRLS AT PECKHAM



*New buildings for Peckham Girls' School, designed by Lyons, Israel and Ellis, have just been opened officially by the LCC. This school was established as an experiment in 1946 by amalgamating four schools in three old buildings, and has so flourished, increasing from 1,100 to 1,600 pupils, and expanding from one fifth form to eight fifth and two sixth forms today, that the new buildings are regarded as a "reward" by the girls, and by the headmistress as a translation of new educational ideas into steel frame and concrete. The site is greatly beautified by old plane trees. The school is planned in six blocks around a central assembly hall. Above, the science block on left, with teaching block ahead surmounted by tank tower. Below, pupils' entrance to the assembly hall block, with music practice room windows on right.*





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## THE INDUSTRY

*Brian Grant describes a bath for old people, plastic faced wallboard, a shower fitting and a new range of copper cylinders.*

**Baths for the elderly**

In recent years quite a number of recommendations have been made on the need for specially designed housing and fittings for old people. The shallow flat-bottomed Atlanta bath has been designed for this purpose, and the manufacturers have recently introduced a safety rail known as the O.P. Handgrip. This consists of a length of tube which is hinged centrally to the inside roll of the bath, while its free end rests on the outside roll; when the rail is not in use it is hinged back against the wall and held in place by a ball catch. Ready fitted to the bath it adds 84s. to the price. (*Bilston Foundries Ltd., Bilston, Staffs.*)

**Plastic faced wallboard**

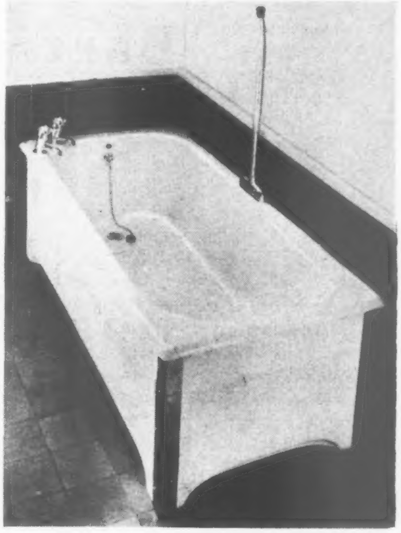
Polypanol-H/F is a hardboard faced with Vynalast p.v.c. made by I.C.I., and the price is only 1s. a sq. ft. in quantities of 100 8-ft. by 4-ft. boards ⅛-in. thick, though the price goes up to 1s. 4d. for single boards. At the moment standard colours are white, green, red, and blue, but other colours can be provided if reasonable quantities are involved. Standard panels are 4 ft. wide, and 4, 6, 8, 10 and 12 ft. long: at this low price there should be a considerable demand. (*Plastics Marketing Co. Ltd., Buckhurst Avenue, Sevenoaks, Kent.*)

**New shower fitting**

The new Economic cavity shower fitting has been designed to allow most of the necessary pipework to be concealed behind a plastic panel, leaving exposed only the head of the mixing valve and the shower head. The diagram on the right shows the general arrangement. A cavity 9½ in. wide by 22¾ in. high, with a depth of 3 in. is formed in the brickwork and this receives an adjustable frame to which the mixing valve and shower arm are fixed, after which the cover panel is fixed with six screws. All the connections are easily accessible when the panel is removed. This seems a sensible answer for the sort of installation which tends to end up with rather too much of a tangle of pipework. (*Charles Winn & Co. Ltd., Granville Street, Birmingham, 1.*)

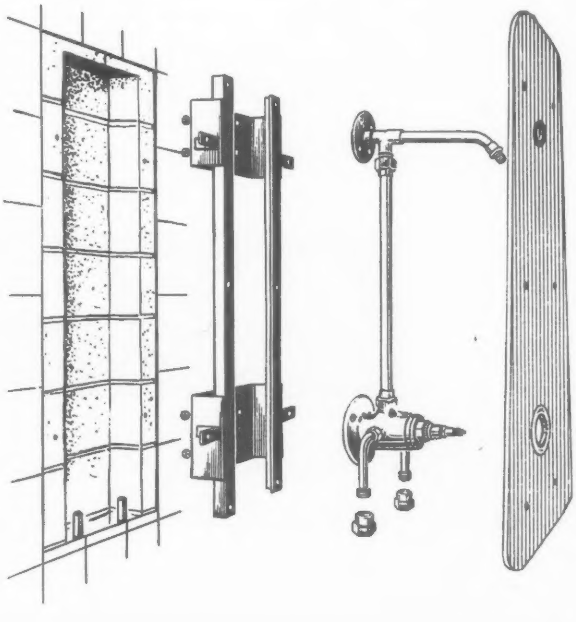
**Copper cylinders**

Associated Builders' Merchants are now producing a range of Fultest copper cylinders in which the base is domed outwards. In the past cylinders for installation upright have almost always been made with the base hollowed inwards, presumably because it is easy to install the cylinder on the slats of the airing cupboard. There is, however, a danger of corrosion round the tapering space at the bottom of the concave cylinder, and BSI call for a heavier gauge for the bottom than for the sides and top. The new ABM types are simple to install as they are provided with a corrosion resistant insulating pad to take the convex base. These cylinders also have a cold water inlet which eliminates the dead water area at the bottom and also disperses any corrosive sediment. A boss for an immersion heater is a standard fitting and a replacement guarantee includes the cost of any plumbing up to £5. Foamed polystyrene insulating jackets are also available. (*Associated Builders' Merchants Ltd., Broken Wharf, London, E.C.4.*)



*The Atlanta bath, specially designed for old peoble, showing the safety rail.*

*Exploded diagram of the Economic cavity shower fitting.*



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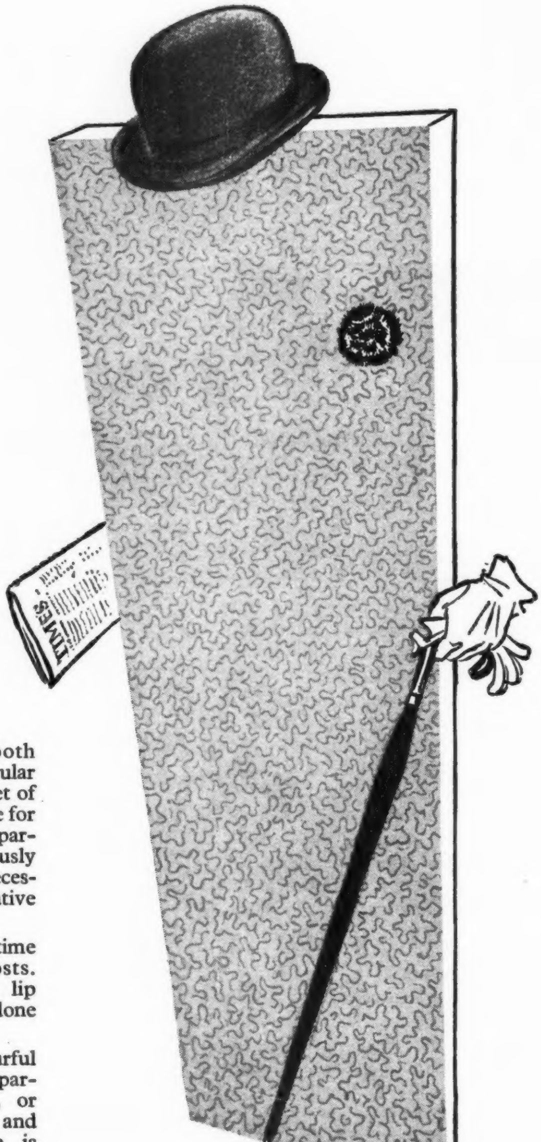

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*A digest of current information prepared by independent specialists ; printed so that readers may cut out items for filing and paste them up in classified order.*

### 7.70 practice
## COST DATA

*Spon's Architects' and Builders' Price Book.* 84th Edition. £1 10s.

This is one of the few books which, when the preface says: "completely revised and brought up to date. . . " really means what it says. The Measured and Materials prices include increases up to April 1958. Since then there has been a wage award of one penny an hour, but materials have remained steady. The preface reminds us of the steep drop in tenders during the early part of 1958—when cuts were made mainly in preliminary items and profits on sub-contractors work. The panic is now abating so that tenders bear more relation to calculated prices.

The approximate estimating section of Spons continues to grow and change. Unit prices of building types are now (most of them) given in shillings and pence per foot super as well as per foot cube (as this reviewer suggested some time ago).

The approximate quantities section has been extended and now gives prices of lifts—four different figures for 6, 8, 9 and 10 stop travel for a 10 person lift. The prices appear to include builders work. "Comparative prices"—a new feature two years ago which lists "all in" prices per yard super of numerous wallings, floor constructions, finishings, roofs and so forth, is also more extensive than before, including heating and drainage prices. Heating is in the form of a table showing for each room in a house a number of alternative appliances and their total cost per house, based on the assumption of a contract of 50 semi-detached houses of 900 sq. ft. For example, an open fire in the living room, boiler in the kitchen, electric fires in two bedrooms and immersion heater in the cylinder, chimneys and fuel store included, costs (at 1955 prices) £204. Skirting heating, floor or ceiling panel systems, radiator systems, by oil and solid fuel are all given. They seem to average well over £400; but the biggest surprise is electric embedded heating in both ground and first floors at £300. Even if this includes the difference between a timber and concrete first floor, it is still high.

The initiative of the authors and publishers in introducing and developing the comparative prices section must be welcomed by architects who want to become cost conscious but find the measured prices section rather beyond them. So far as I know it is the only regular publication of information (apart from AJ cost analyses) of real use in cost planning. I end with a suggestion: Make the approximate estimating section of Spons into a separate publication—revised *twice* yearly—and aimed at the architect market.

### 10.174 design: building types
## HOUSING

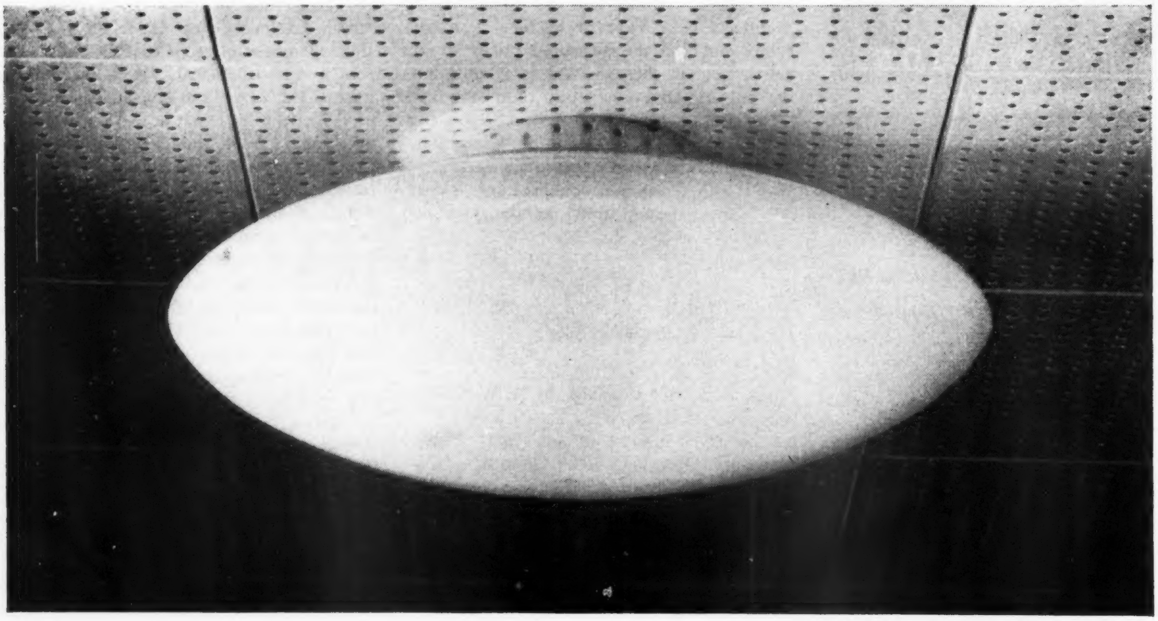
*Public Authority Housing.* By A. W. Cleeve Barr. (Batsford. £5 5s.)

In the short period of ten years Public Authority housing has changed from Cinderella to Princess. For the first five years after the war it looked as if the transformation would never take place. Quantity there certainly was for it was now the public authorities which were providing "the homes for the millions" and not, as in prewar days, the speculative builder. To quote the author "during the inter-war period the ratio of public authority to private enterprise housing was about 1 to 4, postwar the ratio has been reversed. . . ." Quantity there was: quantities of self-effacing council houses appeared in dead-pan rows, quantities of barrack-like five-storey flats garlanded with access galleries rose out of gloomy asphalt lakes. The quality came, perhaps inevitably, as the new post-war trained architects emerged from the schools. The first half of the book is a scholarly analysis of this period from 1946-1957, not only historically but technologically. The relevant facts relating to rents, standards, construction, services, costs, fire regulations and every conceivable aspect of public authority housing are clearly set out, interspersed with numerous diagrams, drawings and photographs. The second half of the book is devoted entirely to plans, layouts and photographs of selected schemes either completed or projected within this period. Although the author has long associations with the London County Council, first as Development Architect and subsequently as Assistant Housing Architect, it is due to no personal bias that of the 56 schemes selected for illustration in this section 11 come from this source, for few would deny the tremendous contribution made by this authority. It was responsible for introducing into public authority housing the mechanically ventilated internal bathroom and w.c.; in itself a major contribution, for without it, many of the more interesting types of tall blocks would have been impossible. The LCC was also the first to adopt wholeheartedly the idea of mixed development in Britain, and as the author says "undoubtedly the idea of mixed development is one which has contributed to some of the best results both in high and low density housing." The improvement in housing is not restricted to layout alone; for the architecture is, at best, of the highest order, though the proportion of good is, of course, still small. Excluding new towns in each case, the schemes illustrated in this book represent a total of 20,000 erected dwellings, as against the 2½ million erected since the end of the war. It is to be hoped that this book will have a profound effect for the betterment of these figures. Certainly it will be of particular value in those areas where Public Authorities are facing the problem of designing for higher density areas for the first time consequent upon the revision of the Subsidies Act and its emphasis on slum clearance. Many of these authorities have past experience only of two-storey housing and will have urgent need of the wealth of technical detail on multi-storey blocks which this book provides. For it is a textbook disseminating facts and techniques rather than critical evaluations and æsthetic appraisals. While this may be regretted by many architects, it might well be for the common good. Its readership may, therefore, be wider and perhaps extend to political committee members who represent the client in public authority housing. Pessimists may say that it is too late; the opportunities created by the devastation of the war have been lost and will never recur again. The new towns, those giant garden suburbs, are almost completed and what comprehensive development areas there were, have been killed by piece-meal development by many hands. But this is a pessimistic view: the future may well be brighter. This book will help it to be so.

### 19.215 construction: details
## ROOF DRAINAGE

*Roof Drainage.* BRS Digest 116. HMSO 3d.

This digest presents (in a rather roundabout way) data for sizing gutters and downpipes. It is limited in scope to buildings in which standard rainwater goods would be used and does not apply, for instance, to large pre-fabricated industrial buildings requiring special gutter sections. The data emphasizes the greater capacity (40 per cent.) given by a sloping as against a level gutter but the digest warns that the top edge of the gutter at the bottom of the slope must not be more than 2 in. from the discharging edge of the roof. It also draws attention to the advantage of a 1 in. radius on bends and at the outlet weir. The data assumes a maximum rainfall intensity of 3 in. per hour and is only applicable to areas with rainfall similar to our own. One interesting modification to current practice which would arise from the use of this Digest is the reduction in the size of down pipes. For a wide range of circumstances a 2-in. down pipe is considered adequate. This takes us back to the pre-Victorian era and, visually, will be welcome. Since, however, gutters to this reduced standard would be designed to run full, they must be provided with water-tight joints. They will also need more regular care and attention to prevent them getting choked.



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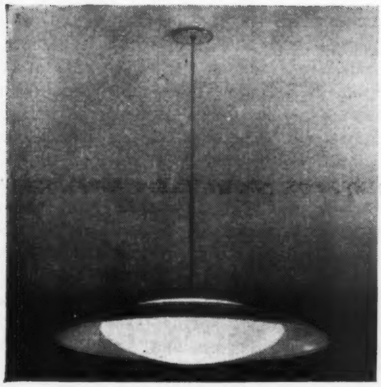

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# 18 CONSTRUCTION: THEORY

## hanging roofs

Though the inherent difficulties of the " hanging roof " still appear to outweigh its advantages, the form continues to attract (witness the Brussels Exhibition) and it may not be long before the development of new products greatly extends its usefulness. In this article a structural engineer, Alan Harris, B.SC. (Eng.), M.I.C.E., describes the forces at work in a hanging roof and the practical considerations which must be taken into account when designing one.

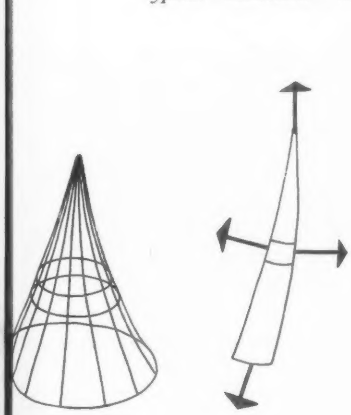
A hanging roof is one in which the main structural members act solely in tension, the tensile forces being supported on external rigid members.

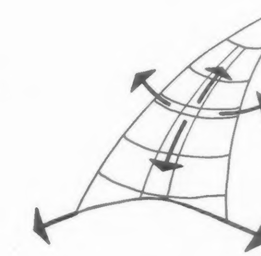
The simplest form of hanging roof is a tent in which a membrane is laid over a ridge pole supported on props; the membrane is tied to the ground.

This classic structure illustrates most of the advantages, disadvantages and leading characteristics of a hanging roof; it will be examined in detail and from it the various forms of hanging roof may be deduced.

1. It has an analogy with the arch. All structures spanning space do so by the interaction of two forces, one compressive and one tensile. In a beam or truss, these are anchored together; in an arch, the tensile force is carried by the earth, the arch being purely in compression; in a tent, the compressive force is carried by the earth, the tent being purely in tension. Unfortunately, to have the tension above and the compression below is the wrong way up; hence the need of props, of compressive members which must be long and powerful to deflect the tensions down to meet the earth.

*Fig. 1 (left and centre). The bell tent: the forces at work in the membrane. Fig. 2 (right). Diagram showing forces in typical "anticlastic" membrane, e.g. umbrella.*





2. It is very light. This lightness does not arise from the use of high strength materials such as steel wire rope for the principal members, but rather from the freedom from buckling enjoyed by any tensile member. Were it not for buckling, an arch of 250 ft. span and 25 ft. rise could be made of 0.25 ins. thickness of concrete stressed at 2,000 lb. per sq. in. Difficulties of construction would also attend such a project, but the main and obvious reason why it is impossible is buckling.

3. This very lightness is an embarrassment. The dead weight of a typical hanging roof is less than the uplift due to wind. When the wind blows, the drooping membrane has to act in compression; this it cannot do, and it will blow out unless something is done about it. This leads us to the first development in hanging roofs, the employment of surfaces of double anticlastic curvature in which upwards or downwards loads can be supported by tensions acting along one or other of the two opposed curvatures; the membrane will not billow. Somebody, in fact, invented the bell tent (Fig. 1).

4. When an anticlastic membrane is loaded, it is in tension in one direction and in compression in the other; where the membrane is in compression, it will go slack and wrinkle, or buckle. This is unacceptable, since wind, which is usually gusty, would cause " slatting " as different parts go into and come out of a state of buckling. This would cause painful impact loads and vibrations everyhere. Now, with an anticlastic surface, tension in one direction of principal curvature is supported by tension in the other; providing that the external reactions can be carried, the membrane can be heavily tensioned in both directions without losing its shape. These tensions can be carried to the point at which they are bigger than the compressions caused by either upward or downward loading so that the membrane always remains taut; we now have a prestressed membrane, of which the most notable example is that highly sophisticated structure, the umbrella (Fig. 2).

A word in parentheses on prestressing. This is a technique most familiar when it enables a material to support tensile stress by first compressing it. It can also work in the other sense; a material can be tensioned to enable it to carry compression. A familiar instance is the pneumatic tyre where the tension in the walls caused by the air pressure is greater than the compression due to load; the walls remain taut. A bicycle wheel is somewhat similar, the wire spokes are tensioned so that as the wheel goes round, the lower spokes do not buckle under the load from the ground.

(5) As the structure gets bigger, forces get larger and larger and more and more difficult to anchor in the ground. Normal ground has little tensile strength; to anchor a large tension, it is necessary to get under the ground and bring its weight into play. The same

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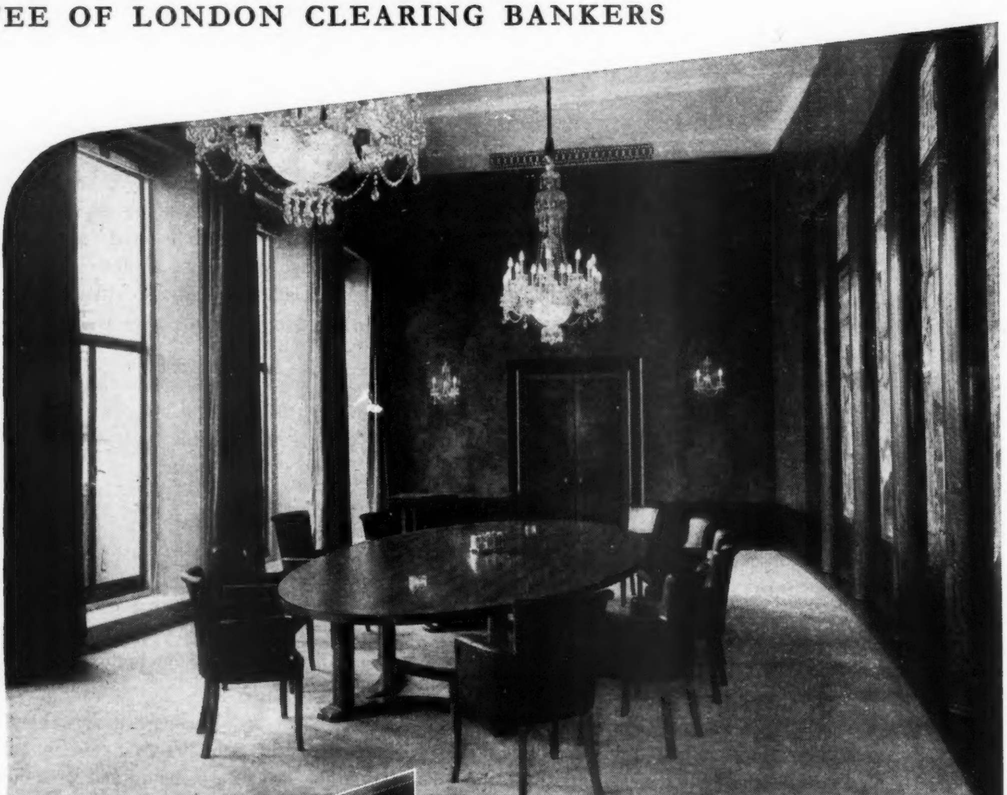

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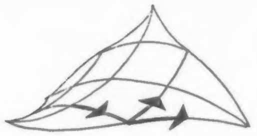


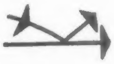
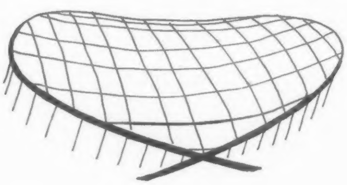


*Fig. 3 (left). Diagram of twisted compression ring structure. Fig. 4 (right). Diagram of reactions in compression ring. Fig. 5 (below). Application of "twisted tennis racket" to roof.*



problem is met in suspension bridge design; in very bad ground the pull of the cable is anchored in the deck, which thus becomes a strut extending from end to end of the bridge. The same thing can be done with a hanging roof. Since the roof covers an area and is pulling in all the way round the perimeter, the pull can be supported by a compressed ring; we have thereby invented the tennis racket.

A simple plane ring sitting on props with a drooping membrane hanging down would obviously not be satisfactory. The low point would be in the middle and it would fill with rain water. The tennis racket is therefore distorted, *e.g.*, by folding about a diameter, so that low points occur at the edges. This moreover produces an anticlastic curvature with the advantages we have noted above (Fig. 3).

We have now arrived at a structural form which is reminiscent of a hyperbolic paraboloid shell. The difference is simply expressed: in a hanging roof, everything must be in tension, whilst a shell is capable of carrying compression. Thus an anticlastic hanging roof will only function if all compressions are tensioned out; the same surface may act as a shell without the compressions causing any alarm—indeed, measures may be needed in a concrete shell to compress out the tensions. The difference is most marked in the forces each exerts on its edges. A warped rectangle forms a neatly balanced shell; the interaction of compression and tension results in edge reactions directed solely along the line of the edge (Fig. 4). As a hanging roof, the same warped rectangle is heavily unbalanced; it is a square tennis racket, needing enormous beams down its edges to support the tensions.

6. The distorted tennis racket type of structure at which we have now arrived has been used for very large spans. It is worthwhile examining some of its characteristics.

(*a*) The weight of the roof proper is extremely small.

(*b*) It can be erected without scaffolding—a huge advantage in long spans, though it should not be forgotten that as a cable is loaded with secondary structure, it changes shape.

(*c*) The ring beam or abutment will inevitably be extremely heavy.

(*d*) The saddle back surface, while having certain possible advantages from the daylighting point of view, is not suited to every use and lacks flexibility. It has a clear disadvantage in that the ratio of total cladded surface either to volume enclosed or to surface covered is large when compared with that of a dome or a vault.

7. We still have no more than a sheet in the wind. A taut, cunningly curved and carefully constructed sheet, but still a sheet. Now a tensioned member, whether sheet or wire, will not buckle, *i.e.*, it is statically stable, but it has its corresponding defect, it is dynamically unstable, that is to say, it vibrates. Vibration can be a mild fluttering, like the humming of a telephone wire, or, if it coincides with the natural frequency of a structure, can gallop away uncontrollably with ever-increasing amplitude until something breaks. Ever since suspension bridges were first thought of, the wind has bounced many away, as those who have seen the terrifying film of the destruction of the Tacoma Bridge will need no reminding.

Is this danger real or imaginary for hanging roofs? It seems to be real; some hanging roofs are alleged to have had damping cables added after the building has been put into service. Whether this be because of the discomfort of flutter or the danger of resonant vibrations is not known, but it seems as if the danger cannot be laughed off.

What to do about it is simply said; one either adds mass, or adds stiffness, or damps, by the last term meaning to introduce some structural impurity which, by getting out of step as it were, hampers the full development of a resonant vibration. Easily said, but much less easily calculated. The vibration of doubly curved and irregularly shaped membranes is, for practical purposes, beyond the reach of analysis; the resources of engineering commonsense are soon exhausted. There remains the testing of models in wind tunnels, justifiable only for major projects; it is possible that they may be necessary only for such.

**Materials**

There are two approaches to the build up of the roof:

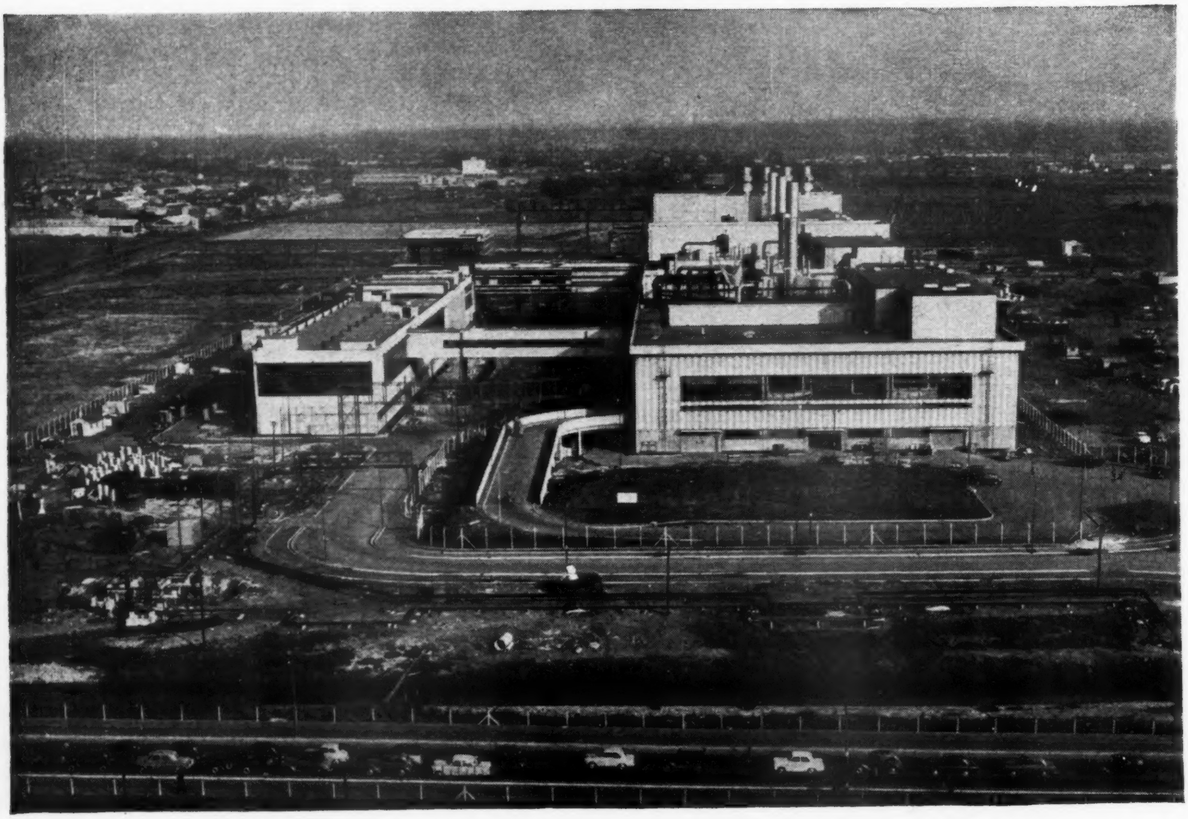
(*a*) Cables supporting cladding.

(*b*) A continuous membrane.

Both run into geometrical problems. It is impossible to subdivide an anticlastic surface into identical small elements. The building up of a surface is thus a matter either of an *in situ* process or of the preparation of an almost limitless number of different shapes with minute variations between them.

Both also require a continuous waterproof barrier over the whole surface; somewhere or other the surface is likely to be horizontal and no amount of lapping of sheets will be adequate to keep the water out.

(*a*) *Cables and cladding:* For the cables, there is



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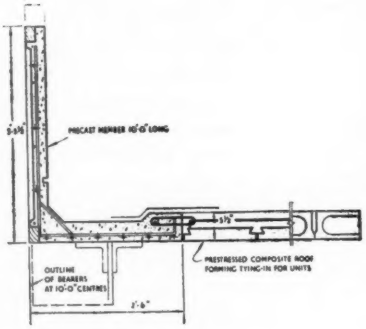

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CON. 122

nothing better than steel wire rope, though unlaid (*i.e.*, unfinished) bundles of wire have been used. Practice seems to be to use galvanized rope and leave it untreated. The cables are usually laid in two directions at right angles on plan and clamped or clipped together at the intersections.

These two layers of cables define a series of equal rectangles on plan; the true shape of these rectangles varies greatly due to the varying inclination to the horizontal of the cables, indeed, very few of the rectangles are even plane. Here are possible means of cladding these cables:

(*i*) Corrugated metal sheets, usually aluminium. These are flexible enough to adopt the twist of any band of roof and other variations can be taken up by lapping at ends and sides to varying amounts. Sheets are covered by an insulating layer and a waterproof membrane over all. This is the most well-tried solution.

(*ii*) Tongued and grooved timber boards. These can twist and bend horizontally enough to marry the shape. If the joints remain visible underneath, care is needed in fixing the point and direction at which laying starts as on either side of this point there will be a drift away from the starting direction. The boards would be covered with a waterproof membrane and insulation if needed.

(iii) An *in situ* concrete covering of the plastered XPM or ferro-cimento type seems feasible. Such a covering would probably be disproportionately heavy; with a thickness of an inch or so, the covering could act as a shell anyhow. Something novel may turn up in this field however.

(*iv*) The French Pavilion at the Brussels Exhibition appears to have welded mesh tied on top of the cables and carrying some sort of lightweight plastic slabs. This solution is attractive.

(*v*) Mention is occasionally heard of plastic coverings being used in the USA; glass fibre and polyester figure in such mention. Nothing further is known by the writer.

Whatever the cladding be, either it needs tying down very firmly to the cables or it is too heavy.

(*b*) *Continuous membrane:* A continuous membrane is stiffer and stronger than the same weight of metal of equal strength disposed in two systems of bars or cables; the membrane in position, the roof is complete but for the insulation. The attractions of a continuous membrane in consequence are very real.

Unfortunately so are the difficulties. Here are the main ones:

(*i*) A cable is virtually a line and it can lie in the required surface with no risk of twisting it. A length of sheet must not only lie in the required profile but must also have the required cross fall. Separate strips of roof must thus be pre-formed into a plan shape of an arc of a circle, whose radius will be different for successive strips. The alternative is to induce a straight strip to hang at an inclination to the vertical.

(*ii*) Assuming strips can be made to lie in the desired surface the edges must then be joined together. This has been done with mild steel sheets by bolting and by welding; use could perhaps be made of *in situ* drilling and pop riveting with aluminium sheets. Gaps would probably be too large for adhesives.

(*iii*) It is more difficult to tension a membrane than to tension a cable.

As will be seen later, notable structures have been built using continuous membranes; the attractions seem sufficient to justify further effort. It may be possible, for instance, to use steel wire rope as a former for a glass fibre membrane assembled in place, after which the steel ropes would be recovered. But this is speculation.

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## Examples

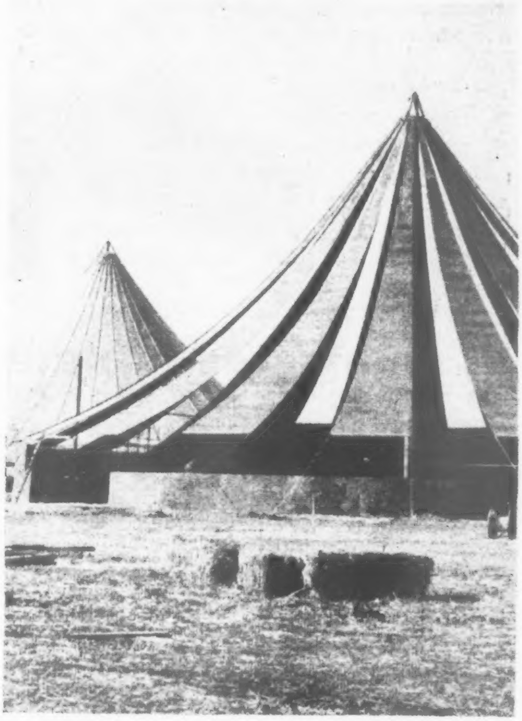

*Fig. 6.*

*Storage bins at Crookston ND, USA* (1957) (Fig 6.)
This "bell-tent" type of structure is 86 ft. high and 169 ft. dia. The sheets forming the membrane are themselves the structure.

*Yale Hockey Rink* (1958) (Fig. 7)
This structure, the result of Saarinen-Severud collaboration, is a development of the simple tent, the ridge pole being curved into an arch and the membrane

LUSAKA HIGH COURT NORTHERN RHODESIA

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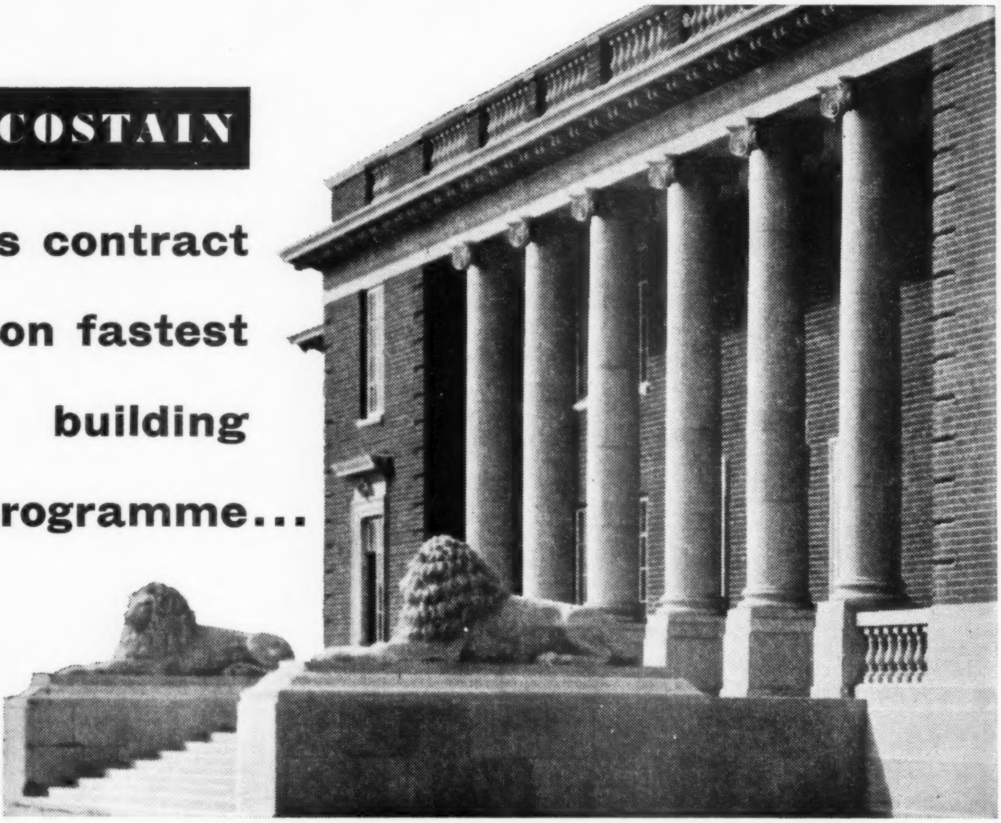
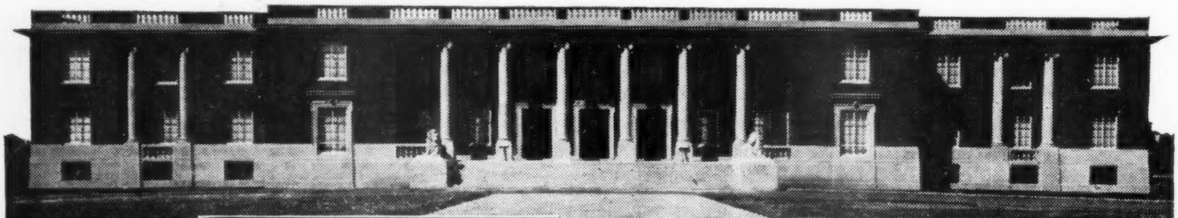


*Architect:* J. A. HOOGTERP, F.R.I.B.A.

**completes it eight weeks ahead of schedule**

For this impressive new High Court in LUSAKA, Northern Rhodesia, speed and craftsmanship were the essence of the contract. Richard Costain (Africa) Ltd. secured this order on the fastest building programme submitted—twenty-two weeks ahead of the next best time. Even so, Costains completed the work eight weeks in advance of their own schedule! Experience, technical "know-how", vast resources—all these place Costains in a position for unrivalled service in building enterprise.



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being given double curvature and prestressed to provide stability and resistance to upward loads. The length of the building is 324 ft., with a 240-ft. clear span and its maximum width 183 ft. The two layers of cables support 2-in. t. & g. planking, presumably covered with a water-proof membrane. Though the weight of the cables is negligible and the weight of the decking is small, the spine member is very substantial and alone represents some 25 lb. per foot super of surface covered.

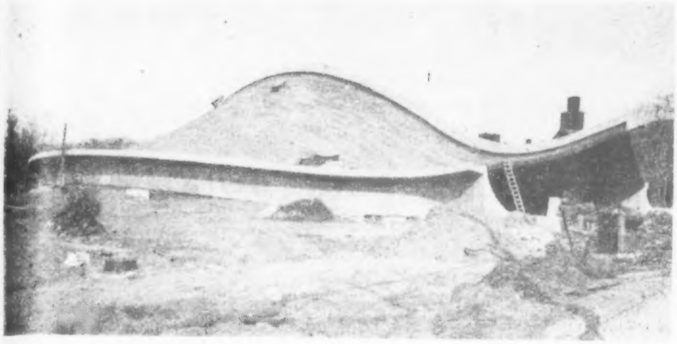


*Fig. 7.*

*Aircraft hangars in France* (1935) (Fig. 8)
The secondary spans of 36 ft. between steel bowstrings are covered by hanging mild steel sheets of approximately $\frac{1}{16}$ in. thick. The extrados of the 230-ft. span bowstrings is circular in elevation; successive elements of hanging sheet are defined by radii to the extrados and are thus identical.

The sheets were bolted into bands of approximately 8 ft. breadth × 36 ft. length, the edges given some light stiffening, and hoisted into position on a cradle and bolted together and to the bowstring.

The designer, Guyon, better known latterly in the field of prestressed concrete, has described the possibility of tensioning this membrane in a direction parallel to the bowstrings and thereby inducing a tension in two directions and greatly increasing the stiffness of the membrane under local and irregular loads. This was never, in fact, done in any of the many hangars built to these designs, the secondary stiffeners to which reference has been made could have been dispensed with entirely, but they were included as a measure of prudence; their cost was small.

It will be noted that in a structure of this sort with multiple parallel bays, there is always an unbalanced tension in the end bays. This was carried in these hangars by ending with a half width bay and anchoring the steel sheets to thrust members running from end to end of the structure. With sufficient length, it would become economical to replace these thrust members by horizontal beams at each end.

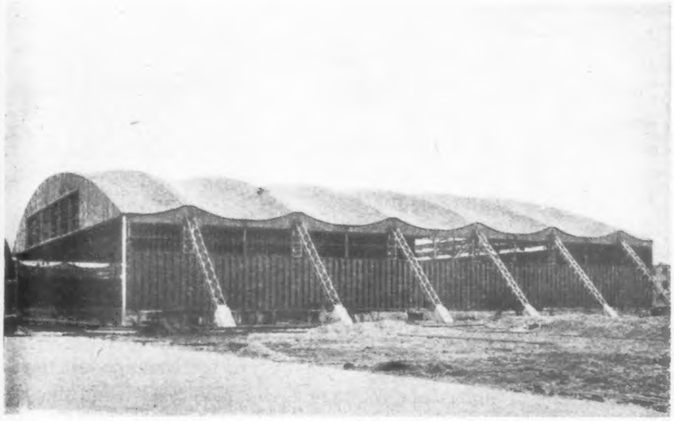


*Fig. 8.*

*The Raleigh Arena NC, USA* (1952) (Fig. 9)
This structure, covering a space of approximately 300 ft. × 300 ft., is the classic example of the " tennis racket "; the present interest in hanging roofs dates from its completion. The roof is clad with corrugated aluminium sheeting covered with insulating board and bituminous felt.

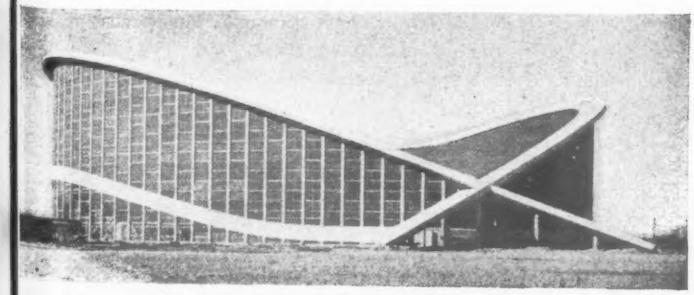


*Fig. 9.*

*French Pavilion, Brussels Exhibition* (1958) (Fig. 10)
This structure consists in plan of two rhombuses of 230 ft. side, each with diagonals of 300 ft. and 350 ft. length; they have a side in common. It is seen to be an example of the straight-sided tennis racket. Dimensions and forces are such that the rhombus tends to distort the long diagonal, which passes from low point to low point, lengthening. On these diagonals heavy beams have been installed which hold these two low

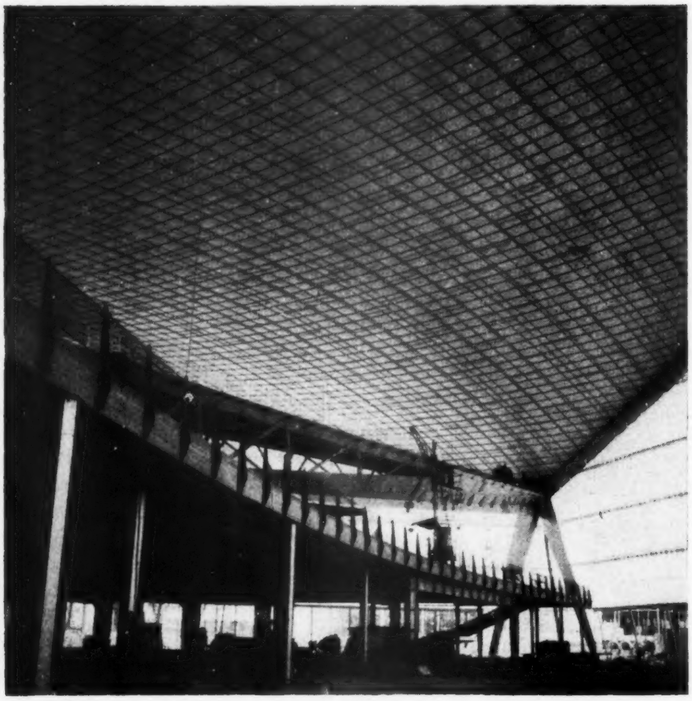


*Fig. 10.*

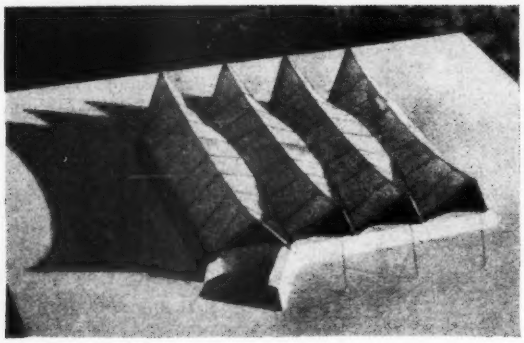


*Fig. 11.*

points together and also serve as fixing and counterweight to the 200-ft. raking mast.

The roof cables are not of laid strand but of bundles of parallel 7-mm. dia. h.t. steel wires; on these are laid welded mesh which supports plastic insulating slabs.

According to a paper by Pierre Vallée of Ets. Eiffel, the firm who designed and built this pavilion to the plans of the architect M. Gillet, the total consumption of steel, including the side walls and the floors, but not including the foundations, was 3,443 T, or about half that used in the Eiffel Tower, built by the same firm. This works out at 32 lb. per ft. sup. of useful floor. Much of this is the price paid for sublime indifference to the most economical shape and disposition of supporting members. We read, for instance, that heavy forces were caused at the " groin " of the structure, where the mast, two edge beams, one common beam and two diagonal beams all converge, by the fact that the programme required the fitting in of an auditorium holding 150 persons around the point at which these members should have intersected.

*Tautened tent type* (Fig. 11)

The writer has been unable to find any embodiments of this type of hanging roof, though he believes such exist. The sketch of a design for a Mission Church by Frei Otto will illustrate the idea sufficiently well, however. It is clearly a further modification of the simple tent with a tensioned wire replacing the ridge pole and a further tensioned wire replacing the tent pegs. The structure is very stiff overall, but there is little inherent local stiffness in the cladding membrane due to its small curvature. Cladding would be difficult. There is an unbalanced horizontal force acting transversely to the main span at the extremities.

---

## Conclusions

The hanging roof has two powerful advantages:

(*a*) It gives the lightest possible surface for spanning large areas.

(*b*) It can be erected without scaffolding.

These advantages are obtained at the cost of the following:

(*a*) Considerable expense in supporting the roof whether by compressed ring or by props and earth anchors.

(*b*) Complication in cladding.

There are certain clear disadvantages:

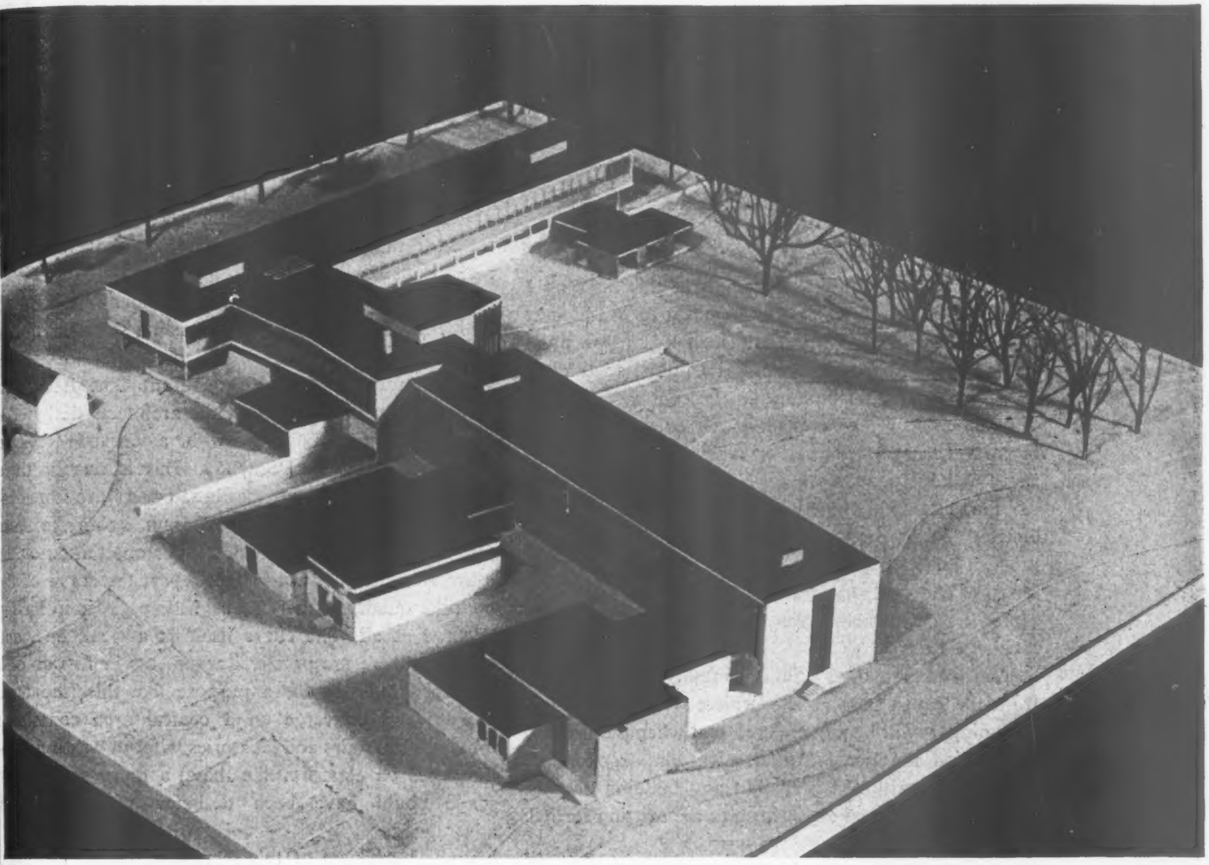
(*a*) The shapes available are few and special; there is little scope for changing or modifying them; they may not be particularly convenient.

(*b*) The surface is in danger from vibration; it is difficult to estimate the magnitude of this danger.

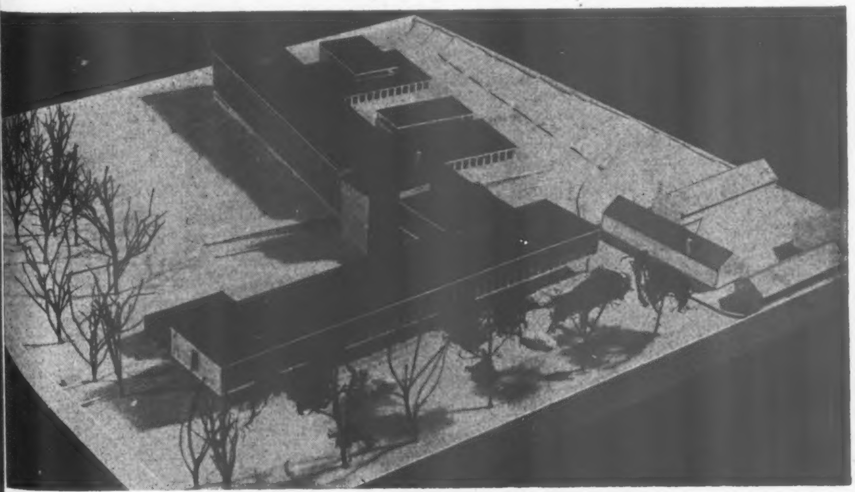
The upper limit of span of the hanging roof is far out of sight. One remembers the more sensational camouflage works during the war, when whole valleys were covered with scrim supported on steel wire rope; it is a large step from scrim to a complete roof over the same valley, but it is a step which could be taken. Note the word valley; over a flat plain with no natural elevation from which to hang the membrane, the thing would be much more costly.

On a more workaday level it would be unwise to prophesy a new dawn, but there is no reason why hanging roofs should not justify themselves against competition from classic structures. A row of aircraft hangars, for instance, where an anchorage at either end would serve four or five spans could probably be roofed extremely cheaply and rapidly on this principle—provided there are no crane rails down the middle and provided that bays need not be completed one by one in isolation.

# VETERINARY COLLEGE EXTENSION NR. EDINBURGH



*A field station where practical field work and laboratory research will be carried out in country surroundings has been designed by Alan Reiach for Royal (Dick) Veterinary College, Edinburgh University, and building is due to start early in the new year. The station is being built on farmland six miles from the city, between two existing farms already being used for experimental work. The plan had to incorporate as much of these buildings as possible, and is designed so that departments using livestock are on ground floor level. The station consists of a teaching and research building, an animal hospital and a farm. The teaching and research building consists of two 2-storey wings at right angles to each other and linked by the principal lecture and demonstration theatres. Top photograph shows the model from the south, bottom, from the north. On the ground floor of the north wing are general offices, reading and committee rooms with staff rooms in a small wing to the south. The Department of Veterinary Hygiene and Preventive Medicine occupies the first floor. The west wing contains all other teaching departments. The demonstration theatre in the link between these two blocks required access both from the farm and from the hospital—contained in two animal yards of loose boxes to the west. So a covered way runs beneath the building leading to the farm unit to the east and the hospital area to the west. A boiler house is below this block.*



# CRITICISM

### by J. M. Richards

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UNESCO HOUSE, PLACE DE FONTENOY, PARIS
designed by MARCEL BREUER, PIER NERVI
and BERNARD ZEHRFUSS

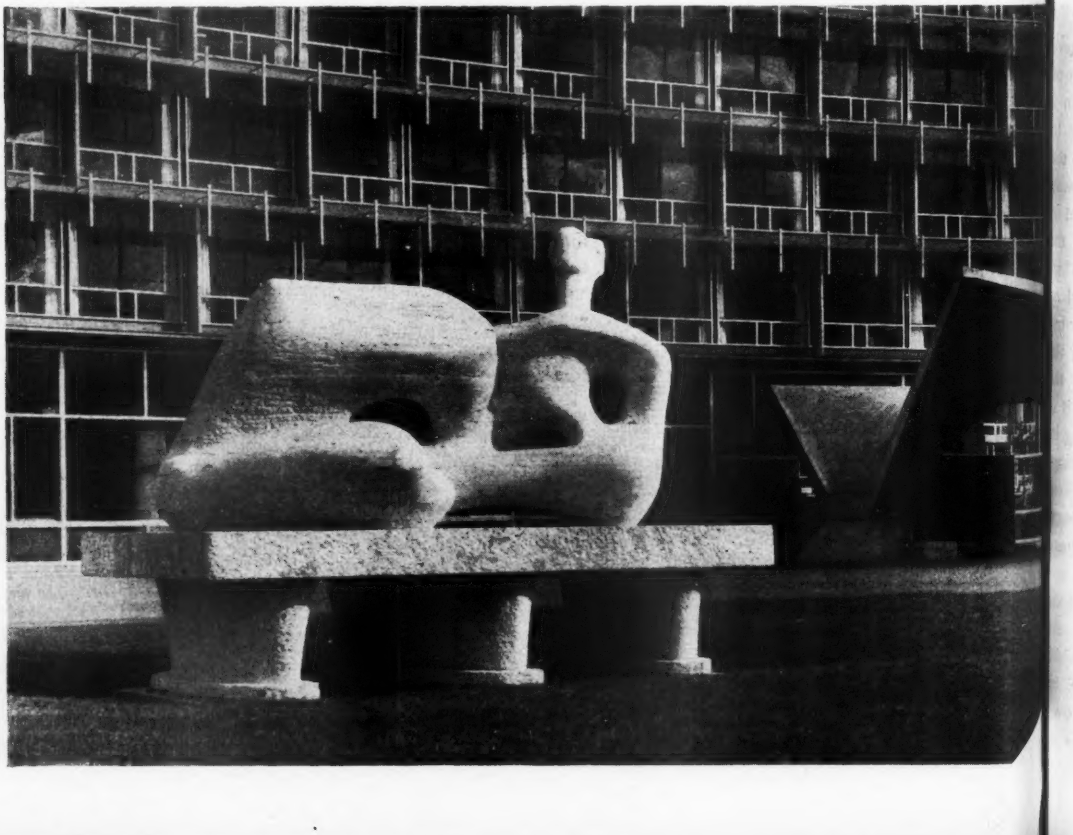
Before writing anything critical about this building I must make it clear that I am judging it by the highest standards—as any building for such a purpose must be judged—and that in spite of its faults, so bravely conceived a modern building in the centre of Paris is very much to be welcomed. Paris, except for some important early works of Perret and Le Corbusier, is sadly without good modern architecture, and in view of the attempts that were made by reactionary elements in the city to prevent Unesco putting up a modern building at all, no criticism of the result must obscure the fact that the building committee has scored a commendable victory on behalf of modern architecture.

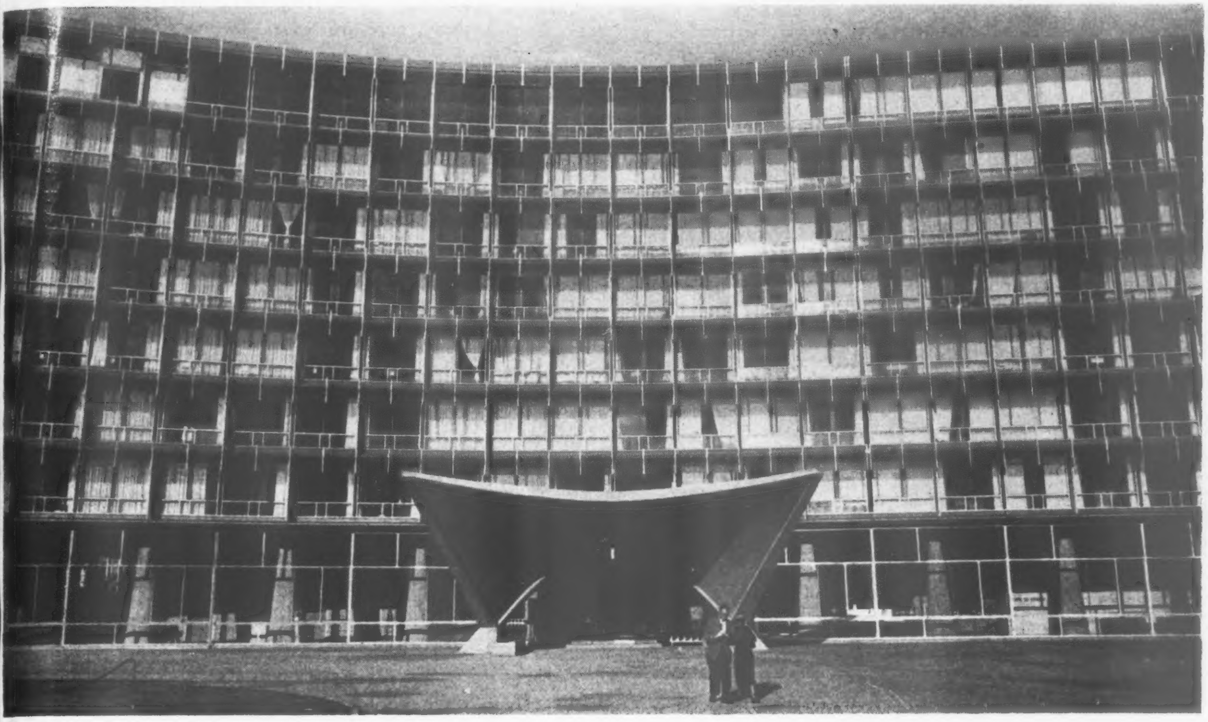
Indeed, some of the building's faults stem directly from the rough passage the project was given at the beginning. It will be remembered that when the present site behind the Ecole Militaire was first spoken of, the city authorities insisted that any building on this site must be designed to conform to the existing formal layout devised by Gabriel; one of its frontages, facing the Place de Fontenoy, was required to be an exact half semi-circle matching up with the very poorly designed government offices occupying the other half. This condition was unacceptable, and another site was chosen out by the Porte Dauphine. The design prepared for this site had more promise than the present design has managed to perform, but for various reasons it too was abandoned and the city authorities, under pressure from the French government, made a return to the present site possible by withdrawing their restrictions on design.

Nevertheless, either because they thought this much notice should be taken of the existing street layout or because they thought it would be politic to provide something resembling the quadrant that had been demanded in the first place, the architects designed a main secretariat building with a curved frontage facing the Place de Fontenoy. This is one of three similar façades (though the three curves are not identical) enclosing a Y-shaped building. From the Place de Fontenoy I find the result neither one thing nor the other. Since it does not in fact repeat the curve of the opposite quadrant, there seems little purpose in having a curve at all. The curve itself is a weak one, and although there are practical arguments in favour of a Y-shaped building for a purpose like this (the three office wings converge on a central area containing lobbies, lifts, stairs and lavatories without wasting well-lit spaces on elements like these) a more satisfactory shape could have been designed with the same advantages.

My chief criticism of this secretariat block, however, is that because it is planned to offer this curved frontage to the Place de Fontenoy, the utilization of the

*The Henry Moore sculpture against the background of the Secretariat building. On the right is part of the porch referred to at the end of this article.*





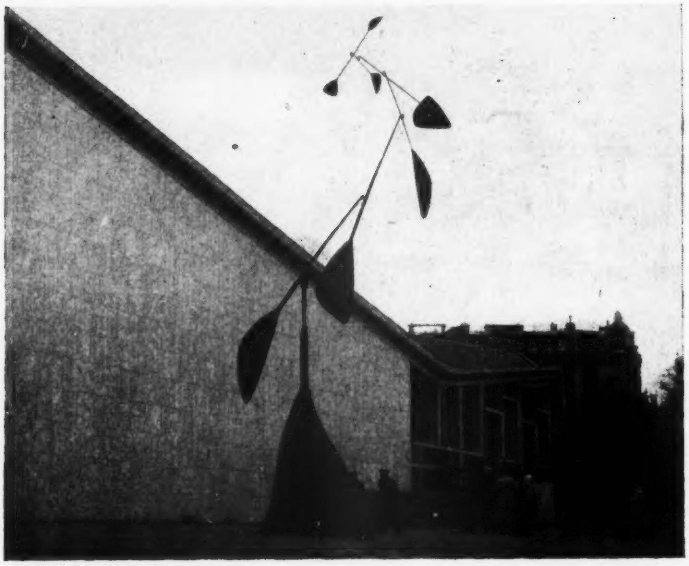
*The Secretariat building from the pedestrian forecourt reached from the Avenue de Suffren, with porch in centre. The Henry Moore sculpture (see previous photograph) is just off the picture to the left. The picture shows the horizontal brise-soleil and the general window system. Some curtains can be seen knotted to prevent them streaming back into the room, which they tend to do because the windows open only to their full height.*

site is not at all satisfactory. The relationship of the conference wing to the end of one arm of the Y is not objectionable, but beyond these is left a vast empty area which the visitor approaching the main entrance from the Avenue de Suffren must cross. It looks as though it was reserved for a car-park, but fortunately it is not; there is a separate screened parking strip along the north-west boundary and the Avenue de Suffren entrance is for pedestrians. For this purpose the empty forecourt is meaningless and out of scale, especially in relation to the built-up urban pattern the architects have tried to achieve elsewhere. In addition to the linked secretariat and conference building there is a third building, a square and lower office block occupying the north-east corner of the site, which has no clear relationship to the main buildings and therefore looks as though it was an afterthought—a way of making use of an odd corner of the site when it was found that more office space was needed. This is, I believe, exactly how it came about. Yet in a way one welcomes its presence because, as one walks eastwards from the Place de Fontenoy towards the Place de Breteuil, it does help to establish some spatial relationship between the spreading secretariat building and the architecture of the surrounding streets.

The secretariat building itself has certain definite virtues: it is about right in scale, the rhythm created by the clearly expressed structure is satisfactory, materials are well used and their finish good. The golden travertine with which the upper walls are faced is agreeable in colour and texture. The detailing is adequate except for one rather affected diagonal railing which fills the lower part of the square opening high up in the end wall of each wing. This is not an important detail, but it catches the eye uncomfortably. There is a carefully worked out system of horizontal *brise-soleil* on the sunlit faces of the secretariat, in front of which are projecting bands of clear glass. I had not the opportunity of testing the effect of this system inside the rooms, and have no reason to think it does not work well. There is however one feature here that must be criticized: the standard windows slide so as to open to their full height, creating, if they are opened at all, a bigger inrush of air than can possibly be desirable. Some means of opening a small area, preferably high up, for ventilation purposes should surely have been provided.

My chief criticism of the secretariat building however lies in the fact that it stands on *pilotis* and was clearly designed to have that detached effect, lifted from the surface of the ground, that *pilotis* create, with a clear view beneath the building, either open or glazed. But the effect has been spoilt by the ground-floor space being cluttered up by a confusion of too solid walls. Another thing I am doubtful about—but this may be only personal prejudice—is the use of rustic stonework for some of these screen walls. This way of achieving a somewhat obvious textural contrast has become a tiresome cliché since it was first used 30 years ago. The spectacular outside spiral staircase in the centre of one façade of the building also has too much of the cliché about it.

The internal planning of the secretariat is straight-



*The Calder mobile, placed between the conference building and the Avenue de Suffren.*

forward and unexceptionable. The main entrance leads into a long, well-lit hall of fine proportions only slightly marred by stone subdividing walls that have too much the character of structural elements. On the other hand the light partitions marking off waiting spaces or framing bookstalls and the like have just the right relationship to the high space in which they are set.

From the far end of this hall you pass into the link building—the so-called *Salle des Pas Perdus*—leading to the conference chamber. This to my eye has too low a ceiling in relation to the considerable size of the structural members, and is therefore rather oppressive. In the foyer to the hall itself the staircases descending and ascending are again uncomfortably weighty in view of one's constant close proximity to them.

The hall, as an exercize in plastic form derived from the method of ribbed concrete construction, is the most interesting thing in the building and undoubtedly gains from the frank surface treatment of the concrete, left naked from the forms. Its shape, inside and out, is vigorous and expressive, and particularly successful is the treatment of the elevation, punctuated by deeply sunk openings, facing the Avenue de Suffren. The inside of the hall is pretty austere, but it has the same vigour. There is an odd lack of relationship between the shape of the walls and roof and the rectangular timber-faced structures that run along either side, presumably containing radio and translation cabinets. This can hardly be anything but deliberate, but it only gives the effect of structure and furnishing being by different hands.

I must conclude these rather random critical comments with a word about the paintings and sculpture with which the building is embellished. It is, of course, admirable that Unesco should have commissioned some major works of art for her new headquarters—or perhaps one should take a less easy-going view and say that in view of Unesco's rôle among the nations it would have been disgraceful not to have done so. Anyway, here are several of the major artists of our time given an almost unprecedented opportunity of creating something in the setting of a modern building. It is not an instance of that close co-operation between architects and artists that is often talked about as theoretically desirable, but which is not really perhaps either practicable or conducive to the creation of works of art of a full personal intensity. For there was no collaboration with the artists in the early stages of the building; they were simply each invited to contribute a work to a building already designed, though there was consultation between the architects and the artists on questions of placing, scale and colour.

The results vary in quality, but the sum of their effect is somewhat cold and didactic, as though the list of *avant garde* names of the nineteen-twenties, having outlived its period of revolutionary initiative, had turned into an academic roll of honour. Not all the works of art were finished enough to be judged when I visited the building last month. I found myself in two minds about the much argued-over Picasso. Nothing that great man does fails to be moving, but in this case the forms and symbols employed did not seem to be solid enough, nor the composition architectural enough, to move one in that particular setting. The joins between the panels are too marked and the colour in adjacent panels does not even match up, with the result that the whole painting has a somewhat flimsy air which is difficult to reconcile with the adornment of the wall of a building. Oddly enough, what at first sight seems to be an architectural solecism in relation to the Picasso—a concrete bridge crossing the foyer whose wall it adorns, so that the picture cannot be seen as a whole as one approaches it across the foyer—is the one thing that ties it in with its position in the building.

The outdoor walls patterned and painted by Miro have charm of colour and surface, but having the form of strips of coloured architecture they seem to claim a functional rôle which they in fact are not meant to posses. The Calder mobile is well placed near the corner of the conference-hall wing, beside the gateway from the Avenue de Suffren, where it is just right in scale and was clanking away briskly enough in the high wind, but one cannot attach more than an ephemeral significance to it. The most successful of the works of art is the Henry Moore figure, under the lee of the secretariat, facing the approach from the Avenue de Suffren. Like all his works when the sculptor has been able to place them himself, it is beautifully sited in relation to the light, revealing its subtleties of forms as the sun passes across it. Though a return, in a sense, to the style Mr. Moore evolved 20 years ago (but then he has always moved backwards and forwards in time according to the theme and the style that suits it), it has a fine monumental presence. It suffers only from an unworthy pedestal (see page 856) and from being too near to the vigorously modelled concrete entrance porch in which Nervi demonstrates the plastic possibilities of his favourite material, with the result that it is overpowered by the latter's size and scale when they are seen together from certain points of view.

**building illustrated**

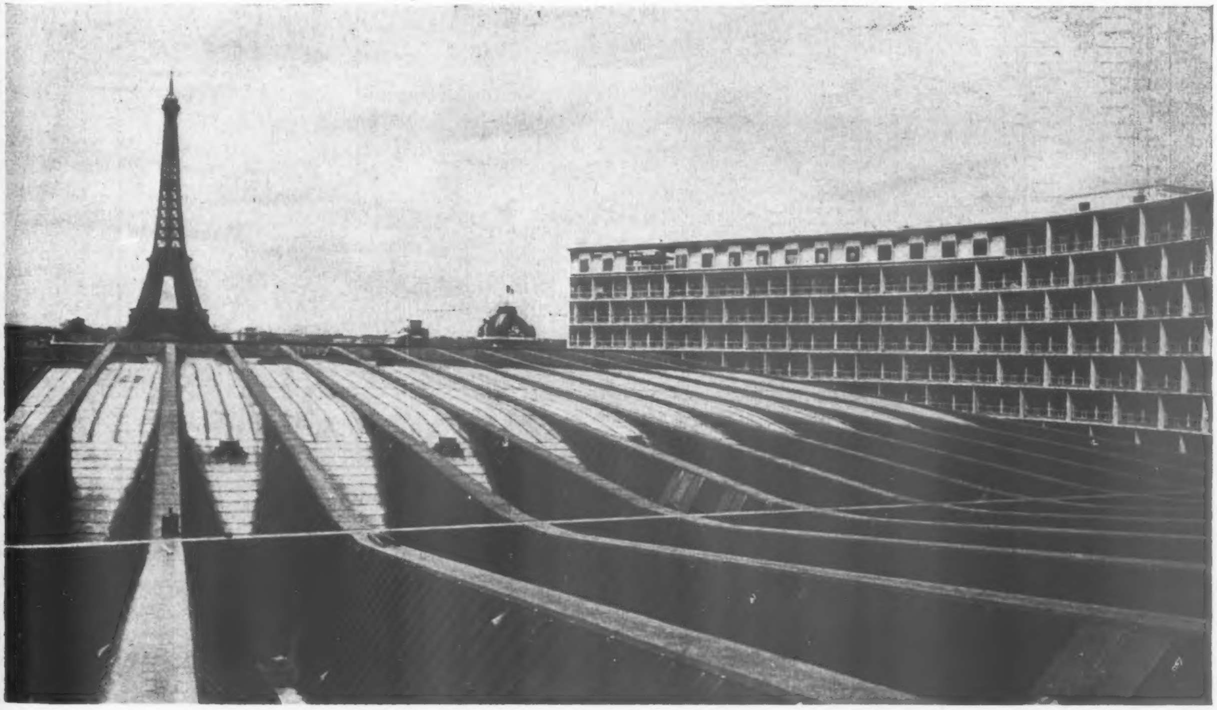
*Conference building and offices in Place de Fontenoy, Paris*

# CONFERENCE BUILDING and OFFICES

UNESCO HOUSE, PLACE DE FONTENOY, PARIS; designed by MARCEL BREUR, PIER NERVI, and BERNARD ZEHRFUSS; consultative panel LUCIA COSTA, WALTER GROPIUS, LE CORBUSIER, SVEN MARKELIUS and ERNESTO ROGERS; site architect EUGENE H. CALLISON

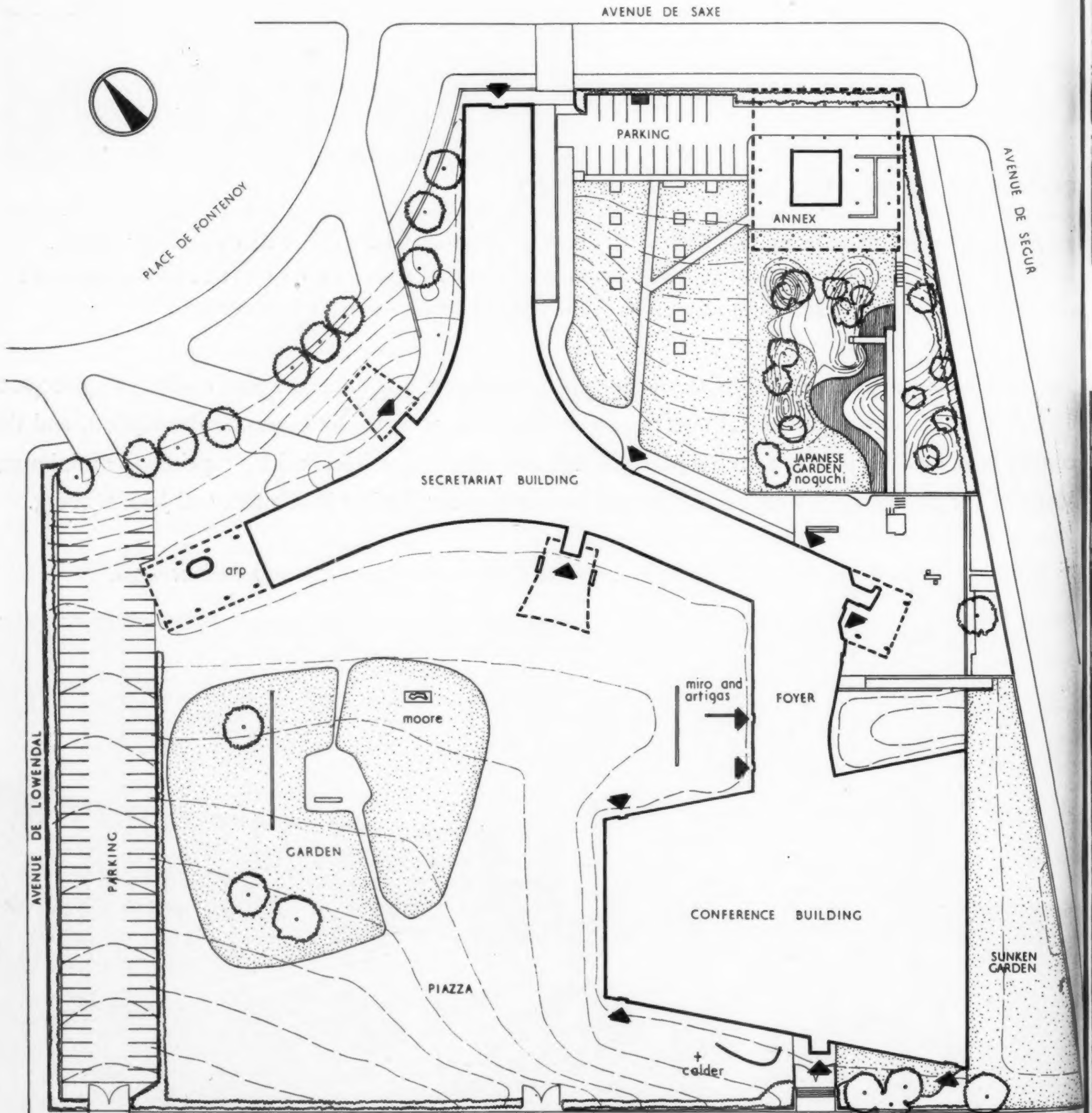
The new headquarters for UNESCO, opened on November 3, was built on a total budget of $9,010,000. The building is already so well known among architects as to need little general description, and the editors have decided to give as full a photographic coverage as possible, limiting captions to a minimum. Many of the photographs were taken specially for the JOURNAL by Ian McCallum and Jack Nisberg.

*The folded-slab roof of the Conference Building, with the north-west wing of the Secretariat on the right. The roof is sheathed in copper.*



**building illustrated**

*The Y-shaped Secretariat, 8 storeys high, has been placed at the north-east end of the site in a position where the curved north front completes the crescent of the Place de Fontenoy. The site is thus divided into three pockets. The smallest, to the north, on the Place de Fontenoy, contains a vehicular forecourt with a setting-down point under a small porte cochere. The somewhat larger part to the east contains a five-storey office building, the Annex. Most of the site on this side is occupied by a basement, the roof of which is laid out as a terrace. The part not built over has been made into a sunken Japanese garden. The area to the south-west of the Secretariat is very large (about a half of the total area of the site) and contains the Conference Building, linked to the Secretariat by a single-storey foyer, the remainder of the area being left as open space (the " Piazza "). The main entrances to the Secretariat and the Conference Buildings are on this side.*


AVENUE DE SAXE
PLACE DE FONTENOY
PARKING
ANNEX
AVENUE DE SEGUR
JAPANESE GARDEN noguchi
SECRETARIAT BUILDING
arp
miro and artigas
FOYER
moore
GARDEN
AVENUE DE LOWENDAL
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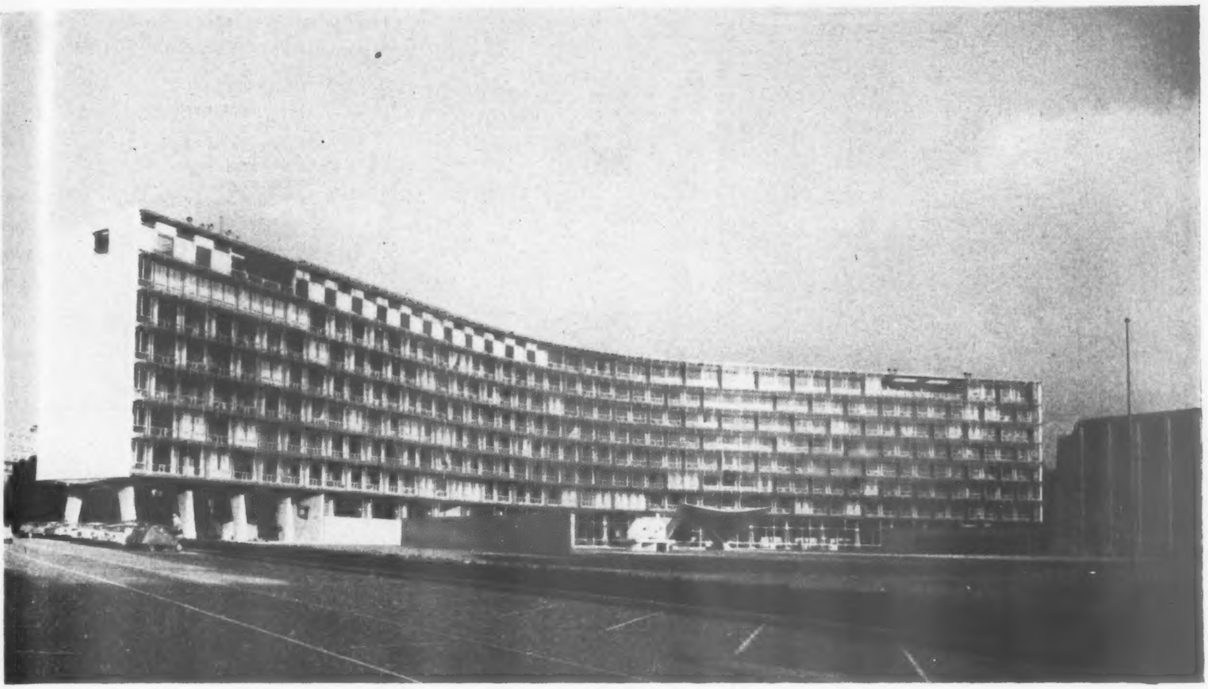
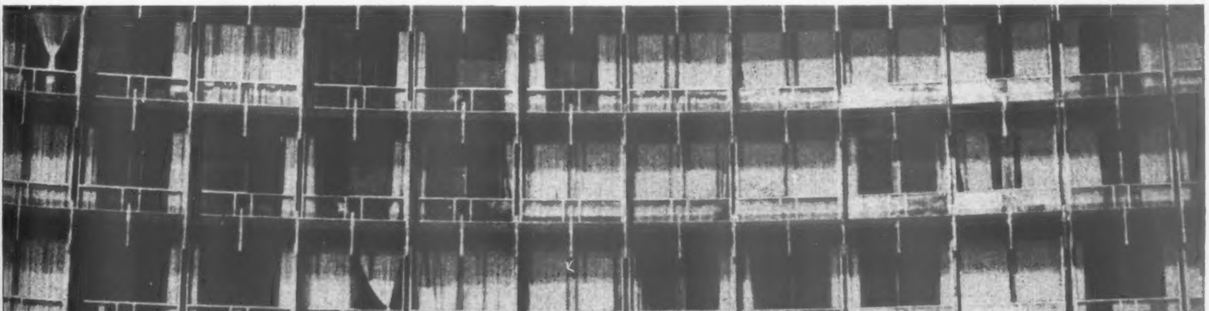
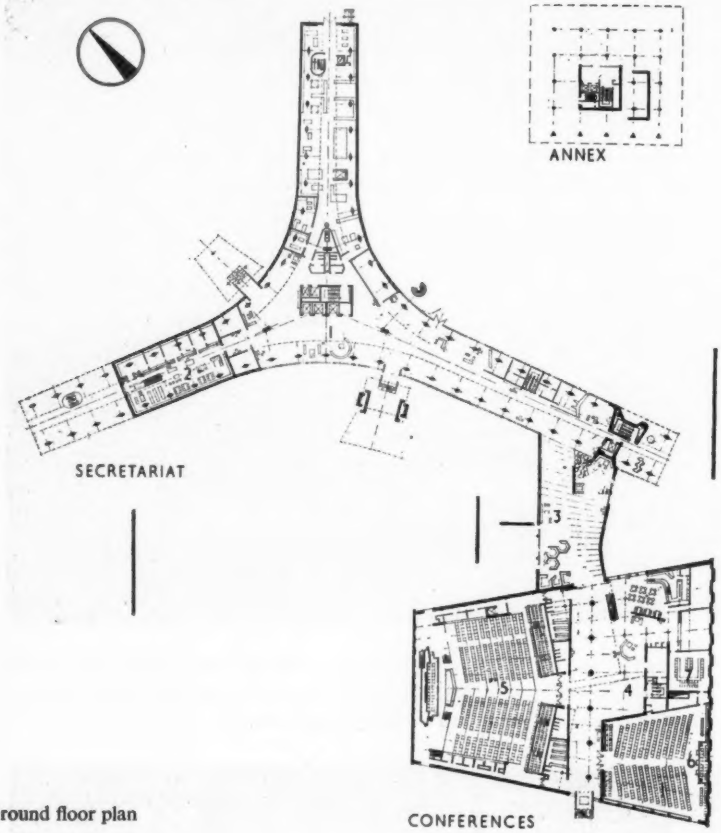
CONFERENCE BUILDING
SUNKEN GARDEN
PIAZZA
calder
AVENUE DE SUFFREN

Site plan



*Above, the south-west front of the Secretariat facing the Piazza, seen from the car park along the side of the Avenue de Lowendal. The Conference Building can be seen on the right. Below, the canopy of the main entrance on the south-west front. The concrete shell is double-curved, stiffened at the edges and across the centre and supported on two piers.*




ANNEX
SECRETARIAT
CONFERENCES
1
2
3
4
5
6
7

Ground floor plan

KEY:

*Ground floor plan*

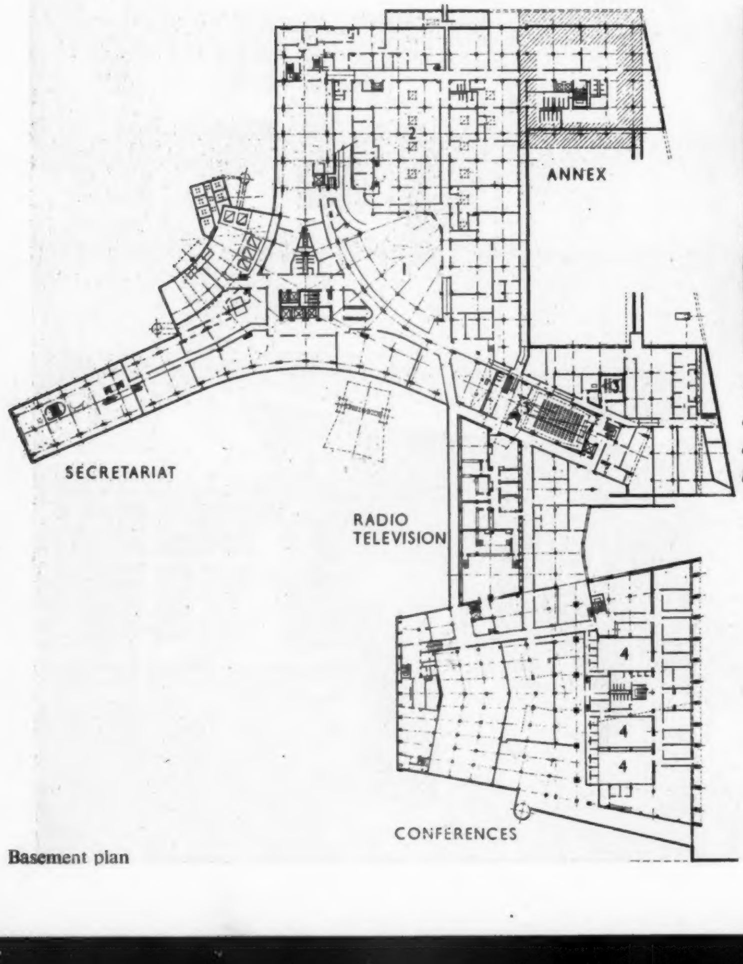
1. Secretariat foyer
2. Library
3. Salle des Pas Perdus
4. Delegates' lounge
5. Plenary Hall
6. Main Commission Room
7. Committee room

*Basement*

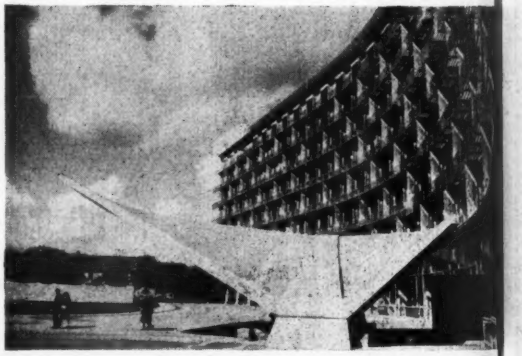
1. Service garage
2. Studios
3. Cinemas
4. Committee rooms

*First floor plan*

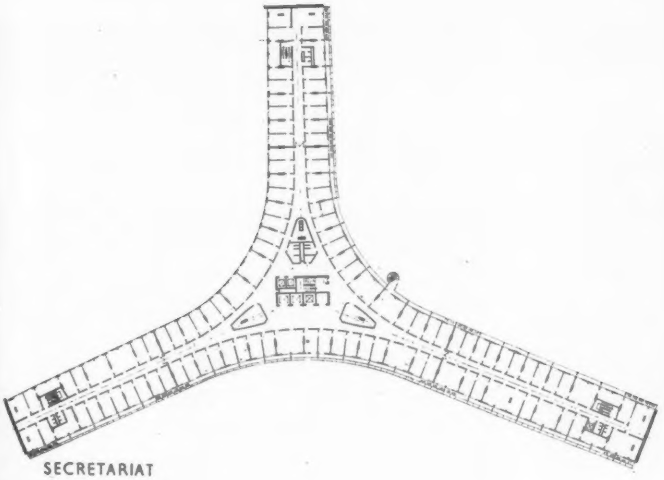
1. Delegates' lounge gallery
2. Upper part of Plenary Hall
3. Upper part of Main Commission Room
4. Executive board room
5. Committee room


ANNEX
SECRETARIAT
RADIO
TELEVISION
CONFERENCES
1
2
3
4
4
4

Basement plan

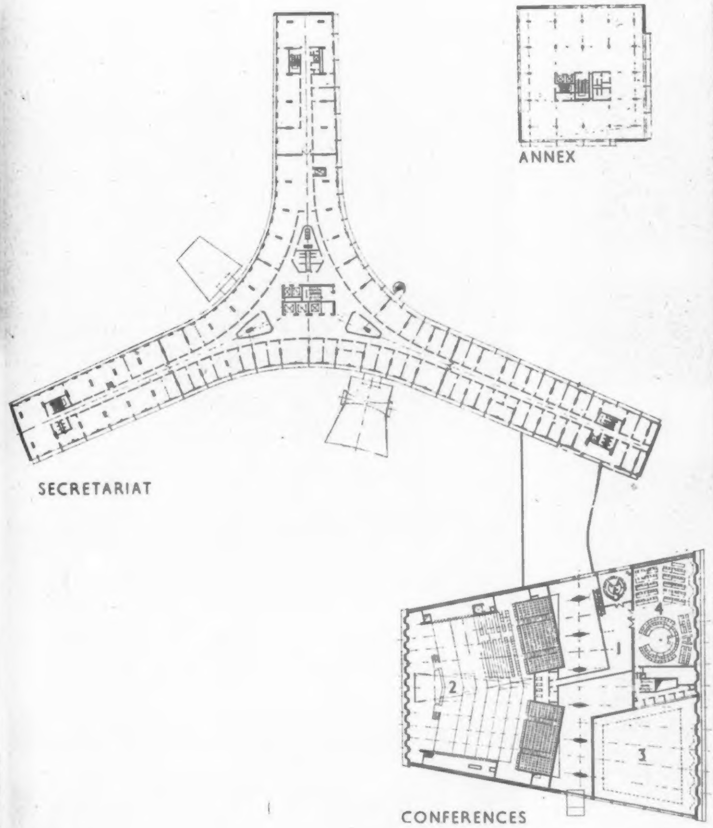


*The rear cantilever stops short of the main building and the entran of the canopy (the black rectangle on the right above) consi of a short and rather weak tunnel projecting from the ma building sufficiently to gain the shelter of the canopy.*



Typical upper floor plan

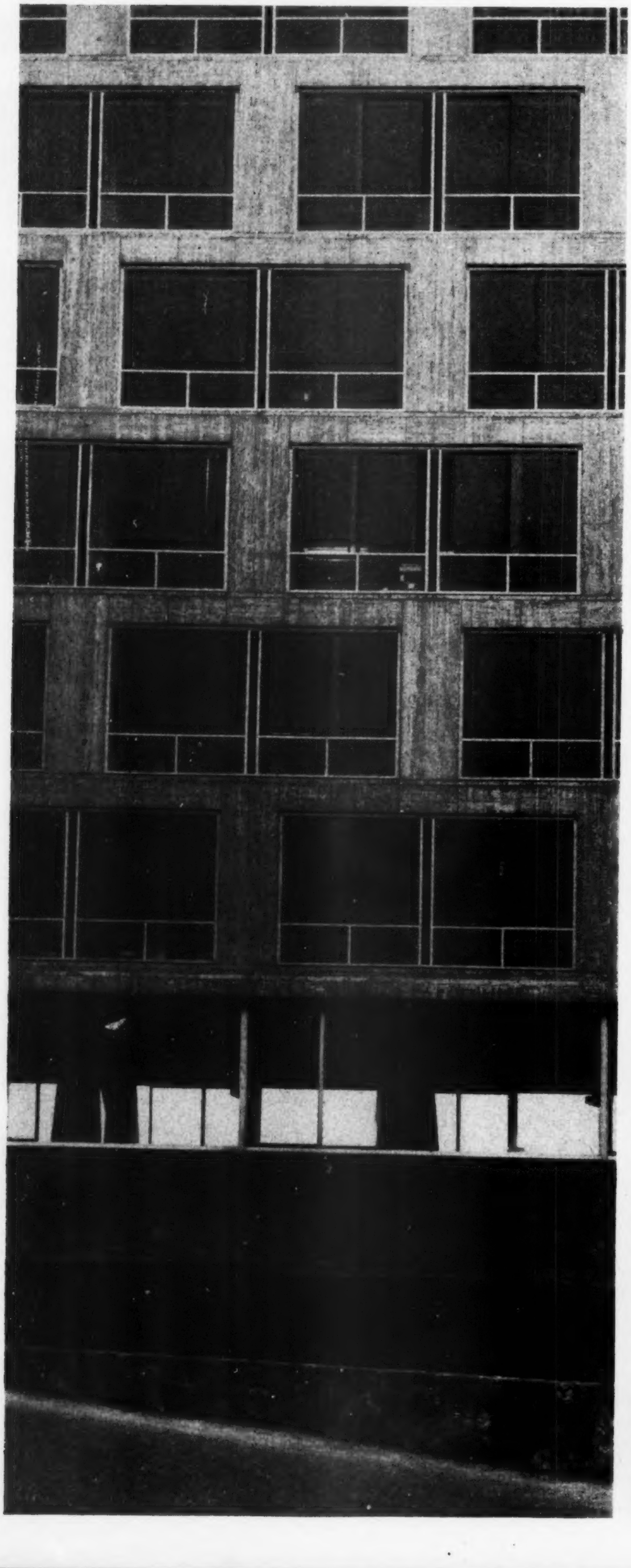
*Above, looking back from beneath the canopy over the Piazza, with Henry Moore's reclining figure to the right.*

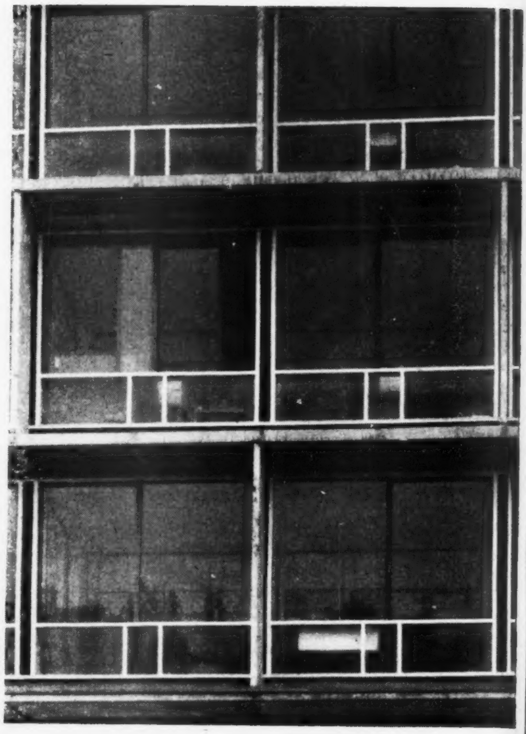


First floor plan

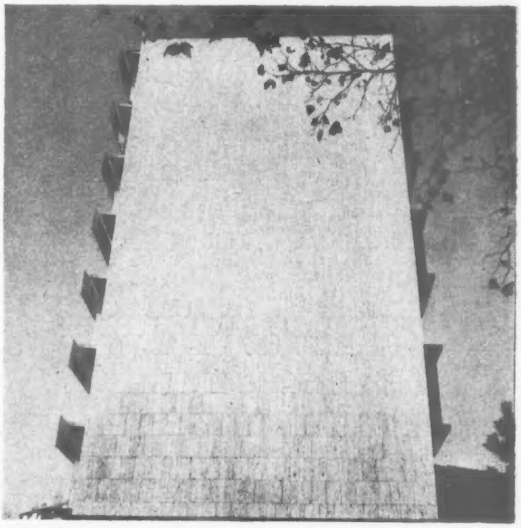
*The Piazza from above; there is a large central grassed area surrounded by expanses of gravel. The free-standing wall is of coursed rubble.*

*The structure of the Secretariat consists of columns at 6-metre centres longitudinally, set back from the external wall and appearing as pilotis on the ground floor; the floor slab cantilevers some 2½ metres from the centre line of the columns. At the centre of the building the large triangular floor space created by the divergence of the column-lines is given extra support by three extra columns and the vertical circulation block.*

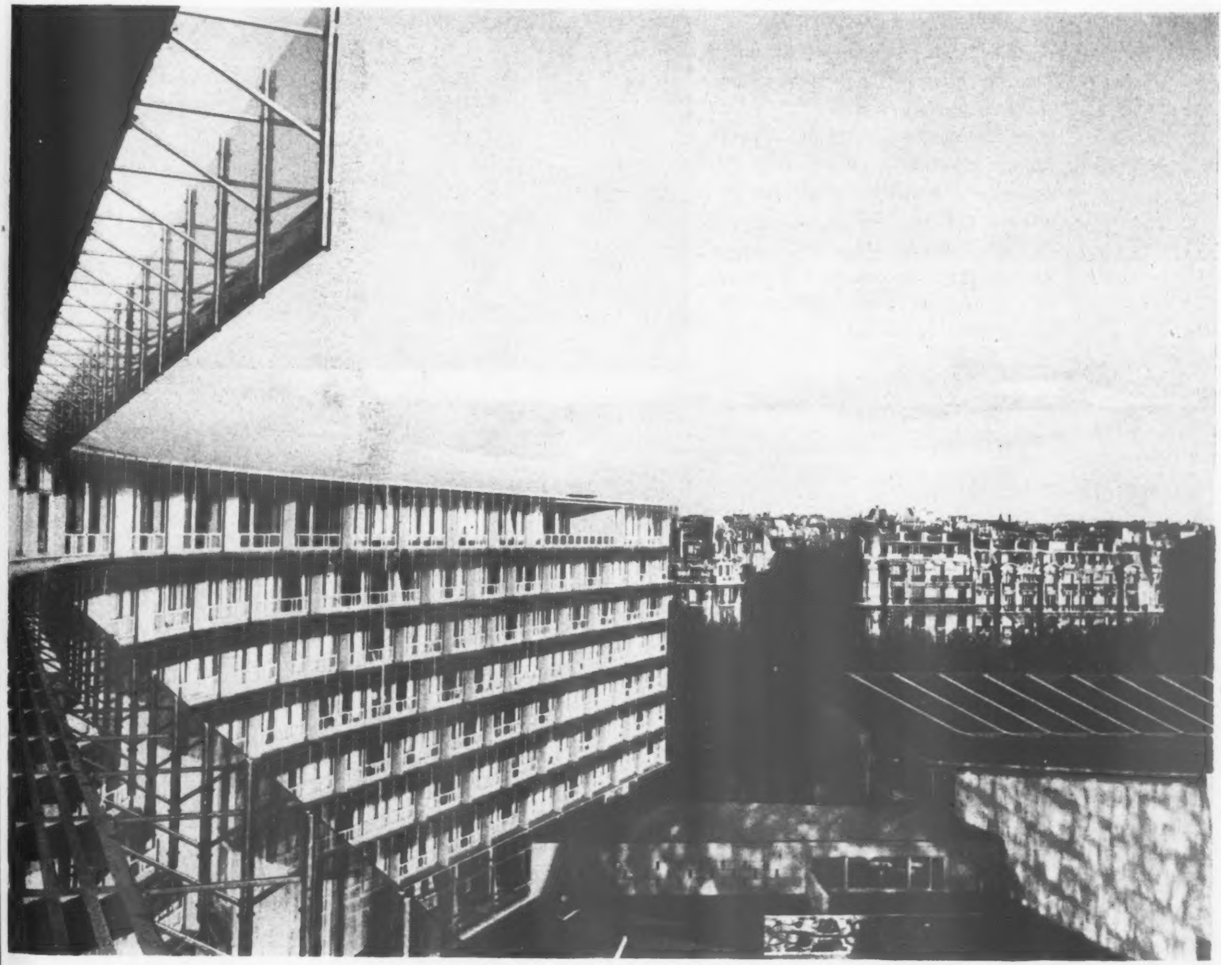




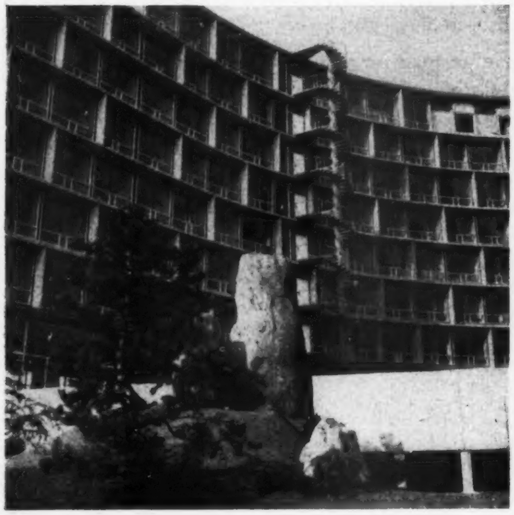
*The 6-metre longitudinal column grid coincides with a 3-metre planning grid, which has governed the subdivision of the external walls. There are four external wall treatments on the upper floors of the Secretariat, three used on the curved sides according to orientation, the fourth—sheer, unbroken travertine cladding—being used for the end walls of the three wings. The photograph, opposite page, left, shows the treatment of the north side (facing the Place de Fontenoy). The 3-metre module is broken, rather arbitrarily, into overlapping 6-metre units framed around with travertine cladding slabs. A wide central mullion in each unit picks up the 3-metre planning module. The face which looks onto the Avenues de Saxe and de Segur has orientations curving from south-east to east, and here some protection against the morning sunlight has been added. Horizontal* brises-soleil *in precast concrete occur at every floor level; the windows have consequently been enlarged to fill the whole area of the facade, with only the mullions at 3-metres centre separating them, opposite page, top right. The staggered pattern of 6-metre units, however, has been reintroduced (again, arbitrarily) by inserting vertical fins between the* brises-soleil. *The south-west front (facing the Piazza) has yet more protection against strong sunlight. Here, vertical tinted glass sun-screens are bracketed out from the* brises-soleil, *with vertical glazing bars at 1½-metre centres, opposite page, bottom right. This also occurs on the part of the Avenue de Segur front which faces south-east, stopping off about one-third the length of the facade. The result of this treatment is a very complicated rhythm of mullions, window subdivisions, sun-screens glazing bars and vertical fins. In particular the staggered pattern of the vertical fins, pointless in the first place, becomes merely confusing. Below, the sheer end wall of the south wing. The cladding is of travertine slabs. To the right can be seen* brises-soleil, *to the left,* brises-soleil *and glass sun-screens.*

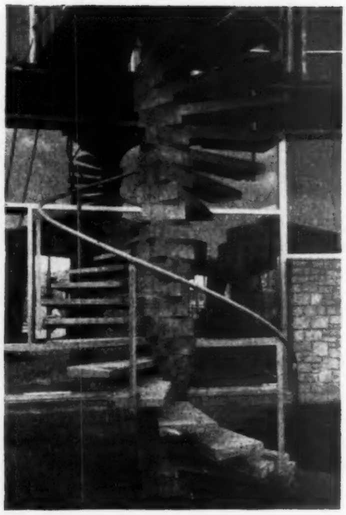


*The photograph below shows the manner in which the tinted glass is bracketed from the building. In the bottom right of the picture can be seen the Salle des Pas Perdus, the single-storey foyer link to the Conference Building.*

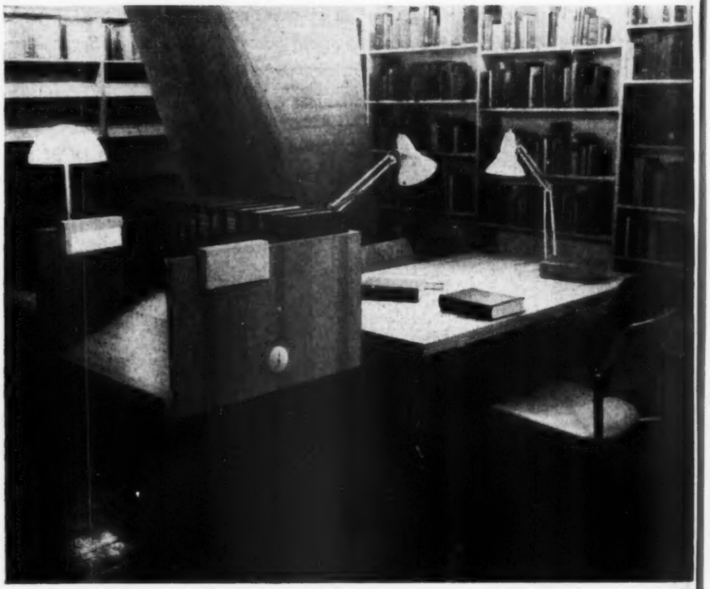


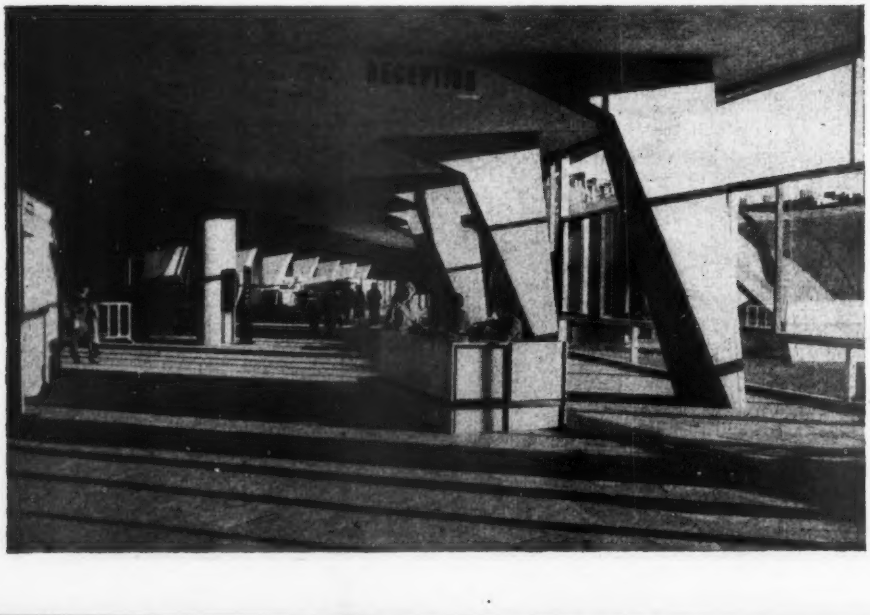
**building illustrated**

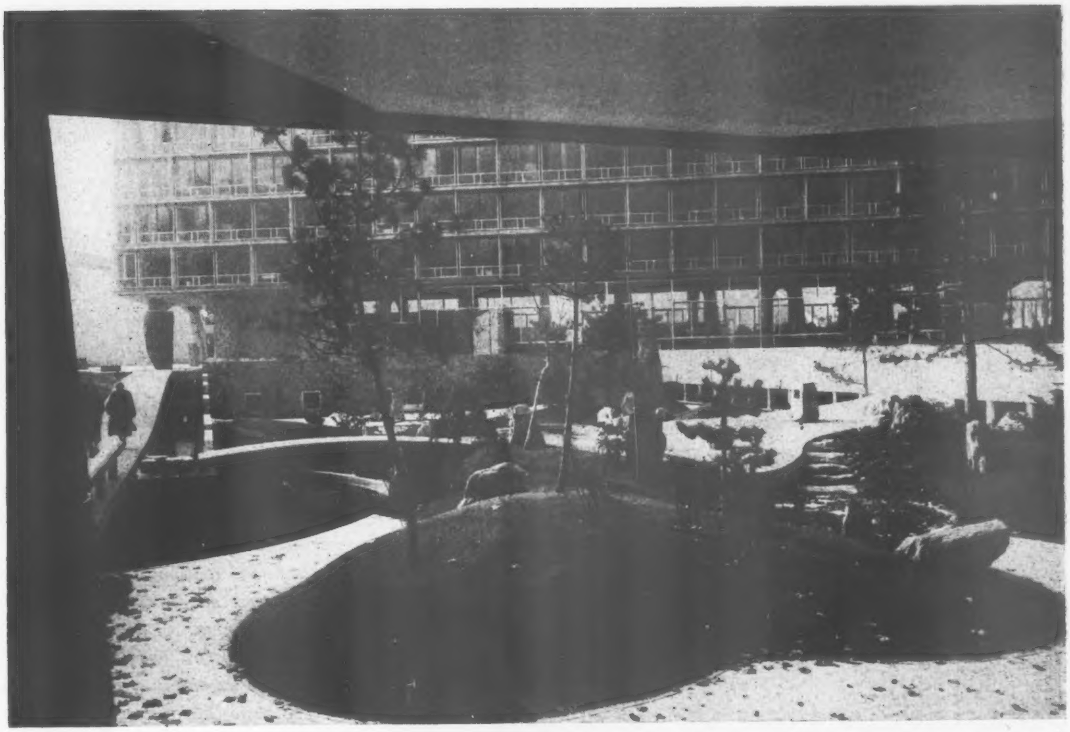


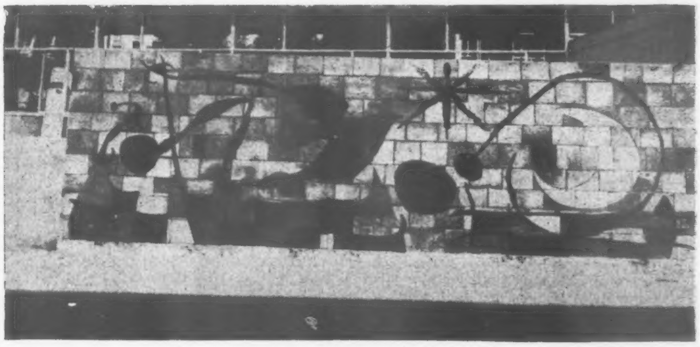


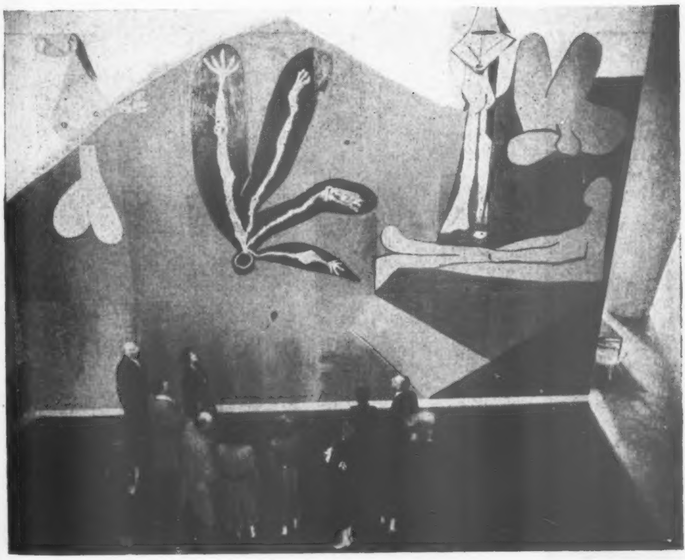
*An external emergency exit stair has been used (presumably more for the fun of it than for reasons of planning necessity) on the Avenue de Segur side of the Secretariat. Above, left, a general view from the Japanese garden; above right, a detail of the stair, which is of precast units with a metal handrail. Most of the ground floor of the Secretariat is enclosed, the* pilotis *(natural concrete, but with controlled formwork), coming down within the outer wall. The photograph below shows the main foyer, where the walls are entirely glazed. The floor is of crazy paving; the furniture was the gift of Finland. The library furnishings, designed by Hans Borgstrom and Bengt Lindroos, were the gift of Sweden. Right, is a view of a corner of the library, which is on the ground floor of the east wing of the Secretariat.*







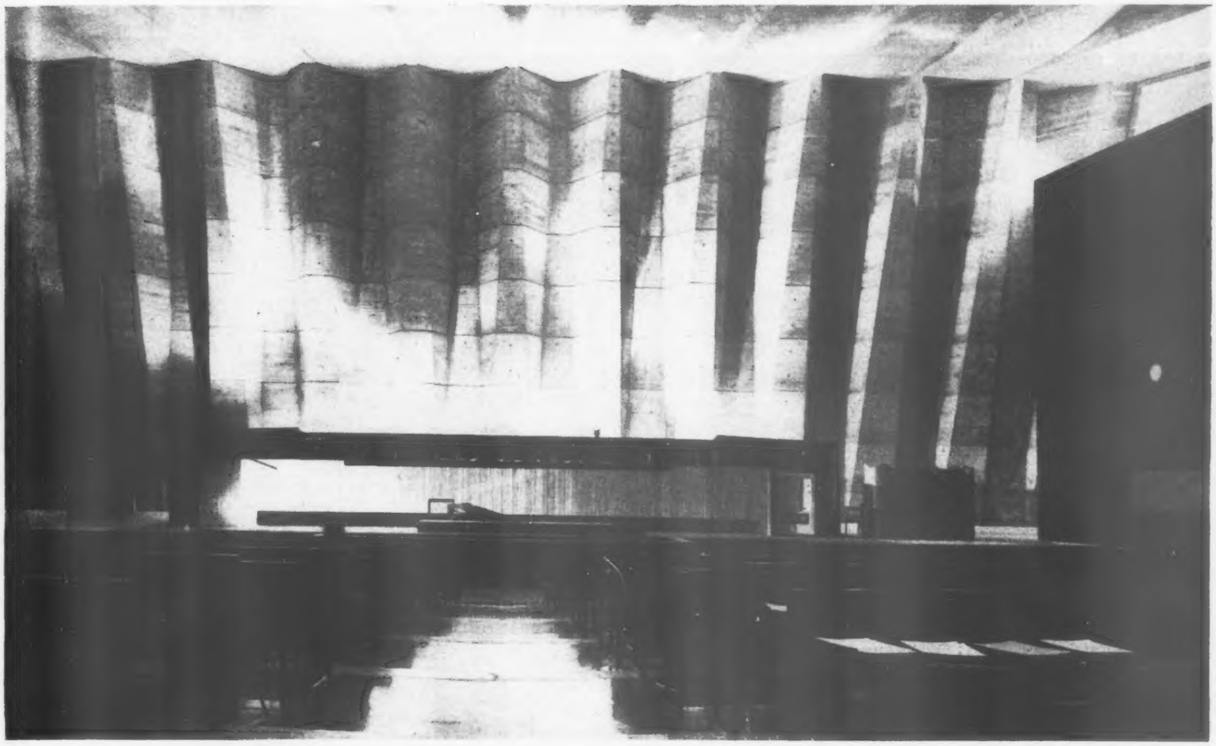




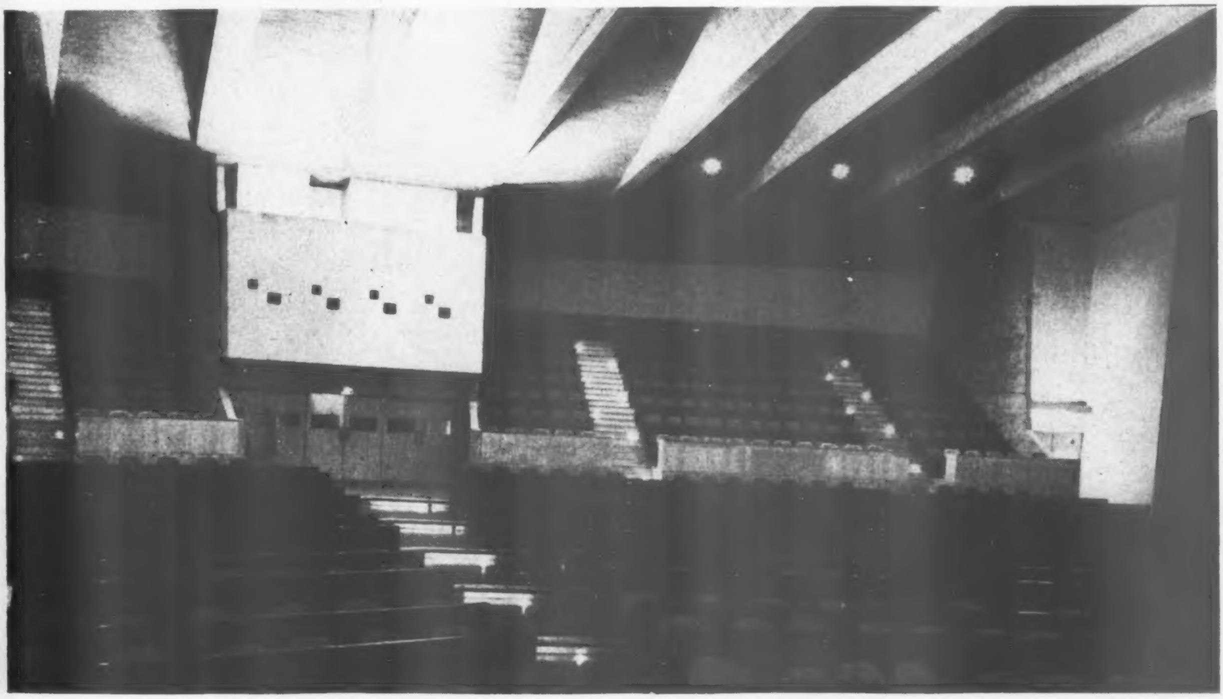
*Top, a view of the Japanese garden, designed by Isamu Noguchi, from the ground floor of the Annex. Above left, another view of the Japanese garden, with the Annex in the background. The Annex is to house permanent delegations and non-governmental organizations attached to UNESCO. The two ceramic tile murals by Miro and Artigas, one of which is shown above right, stand as screen wal s in front of the entrance to the Salle des Pas Perdus. The delegates' lounge, which also serves as a foyer to the Plenary Hall and Main Commission Room, contains a large mural by Picasso, seen left from the first-floor gallery. A bridge, which runs from this gallery to give access to the projection rooms of the Plenary Hall, cuts the mural in half when viewed from the ground floor of the lounge.*

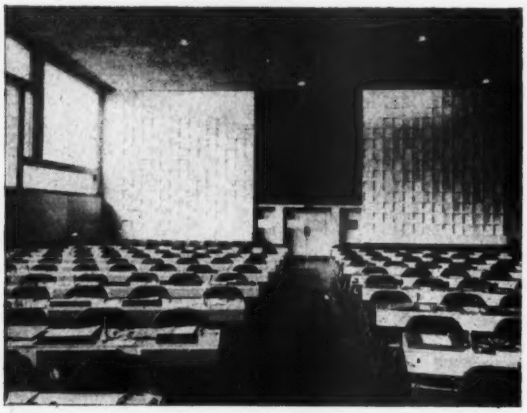
*The Conference Building, seen above, from across the Piazza, has a structure now so well known as to make further description unnecessary. A point of interest is the careful control of formwork pattern and pouring of concrete, which has contributed to the virility of the strongly modelled surfaces, top left. The photograph bottom left shows a detail of the south corner of the Conference Building, where the basement floor looks out on to a sunken garden. The windows on the left of the photograph are those of the main Commission Room. They are subdivided by* in-situ *concrete mullions and transoms.*

*Below, Calder's huge mobile, with the travertine-clad south-west face of the Conference Building behind.*

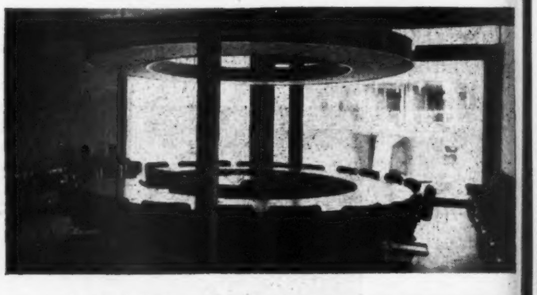


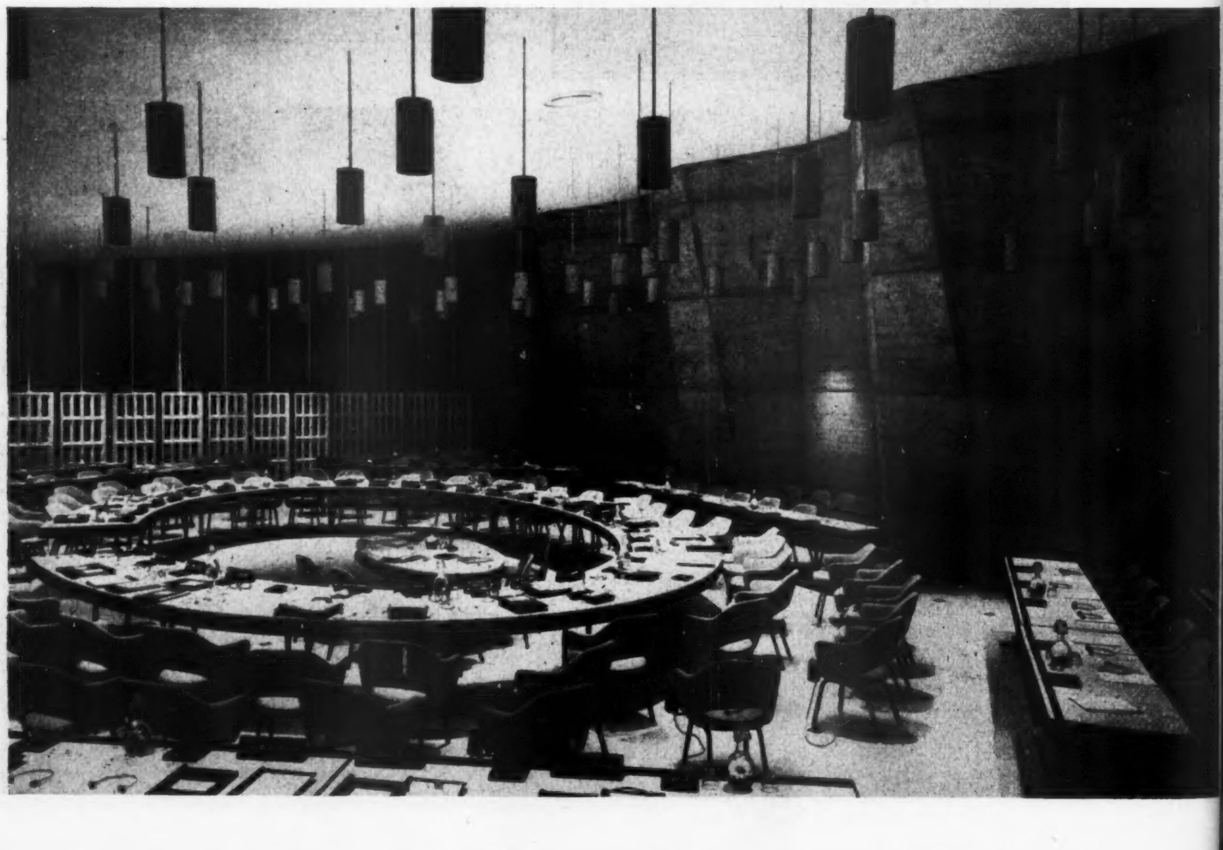
*Within the Plenary Hall the concrete structure is left exposed. Above, the interior looking towards the dais. The dais is of ash and ebony. Below, the view from the dais towards the entrance doors (with projection rooms above) and the tiered seating. The wall behind the dais of the Main Commission Room, left, is also left as exposed structural concrete. The ceiling, however, is of acoustic tiles suspended in one large plane free from the walls at the sides. The room is naturally lit from the south-west side, which is entirely glazed.*





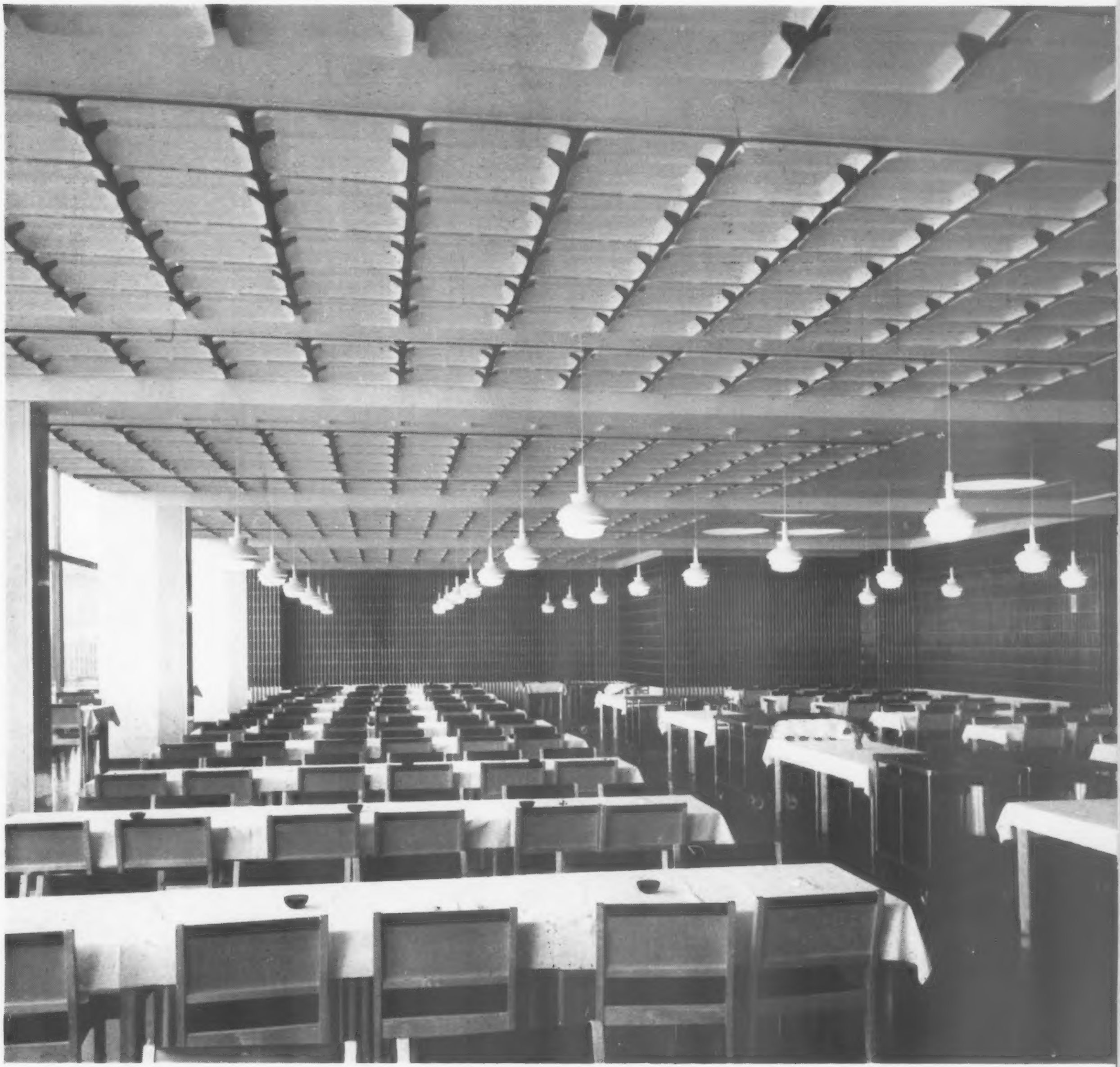
*The rear wall of the Main Commission Room, above left, contains a mural by Tamayo, flanked by two decorative plaster panels. The room is equipped for simultaneous interpretation in four languages. The other large room on the ground floor of the Conference Building is a committee room, the interior of which was designed by Hans Wegner and is the gift of Denmark, above right. The ceiling is of pine slats, the rear wall of ash veneer; furniture is of oak and teak. The light fittings, of copper, follow the lines of the tables. One wall, not shown in the photograph, is of fair-faced concrete as in the Main Commission Room. On the first floor, opening off the gallery of the members' lounge, are two more rooms which have been furnished as the gift of member nations. The Executive Board Room, below designed by Philip Johnson, is the gift of the United States. Again, one wall is of exposed concrete, the others being covered with green velvet. In front of these stand white plastic grilles. The 82 suspended light fittings are arranged in concentric ellipses. Tables are of ebonized walnut and white parchment on black anodized aluminium frames. The smaller room on this floor is a committee room by Robert Haussmann, the gift of Switzerland. The room is glazed on one wall to the outside and on the opposite wall to the gallery of the lounge. A circular enamelled metal light fitting hovers above a walnut table, below.*





## HEATED CEILING: CANTEEN IN OFFICE BLOCK IN HELSINKI

*Alvar Aalto, architect. (Material supplied by Jan Thompson)*

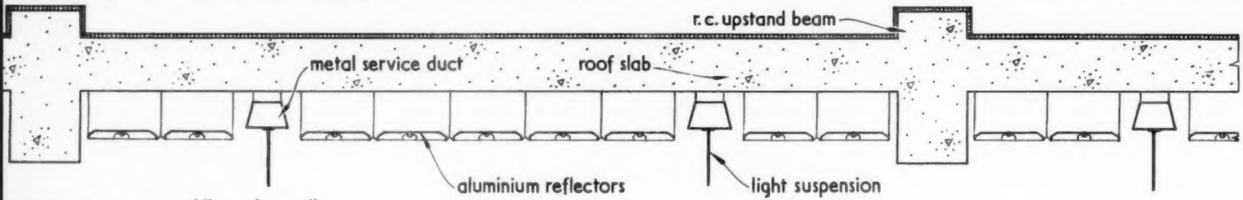


*Seen from this angle the ceiling presents an optical illusion in that the black "sprigged" shapes are not solids but voids. The suspended ceiling comprises a series of dished white-painted aluminium reflectors. These are clamped to copper hot water pipes from which they receive heat by conduction.*

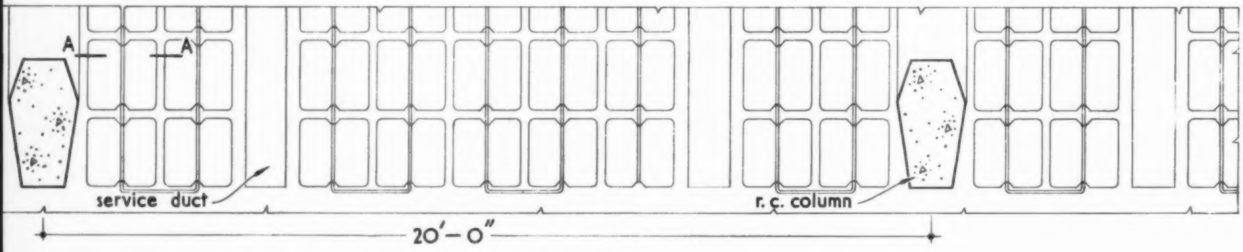
**working detail**

## HEATED CEILING: CANTEEN IN OFFICE BLOCK IN HELSINKI

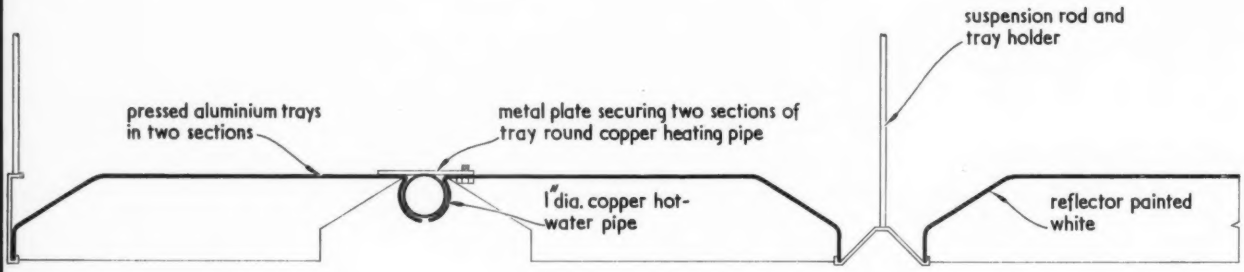
*Alvar Aalto, architect. (Material supplied by Jan Thompson)*


r.c. upstand beam
metal service duct
roof slab
aluminium reflectors
light suspension

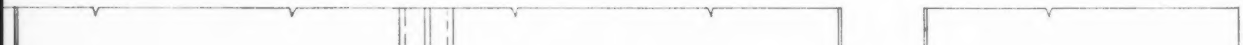
SECTION. scale ¼" = 1'—0"


A
A
service duct
r.c. column
20'—0"

REFLECTED PLAN. scale ¼" = 1'—0"


suspension rod and tray holder
pressed aluminium trays in two sections
metal plate securing two sections of tray round copper heating pipe
1" dia. copper hot-water pipe
reflector painted white

SECTION A—A. scale ¼ full size

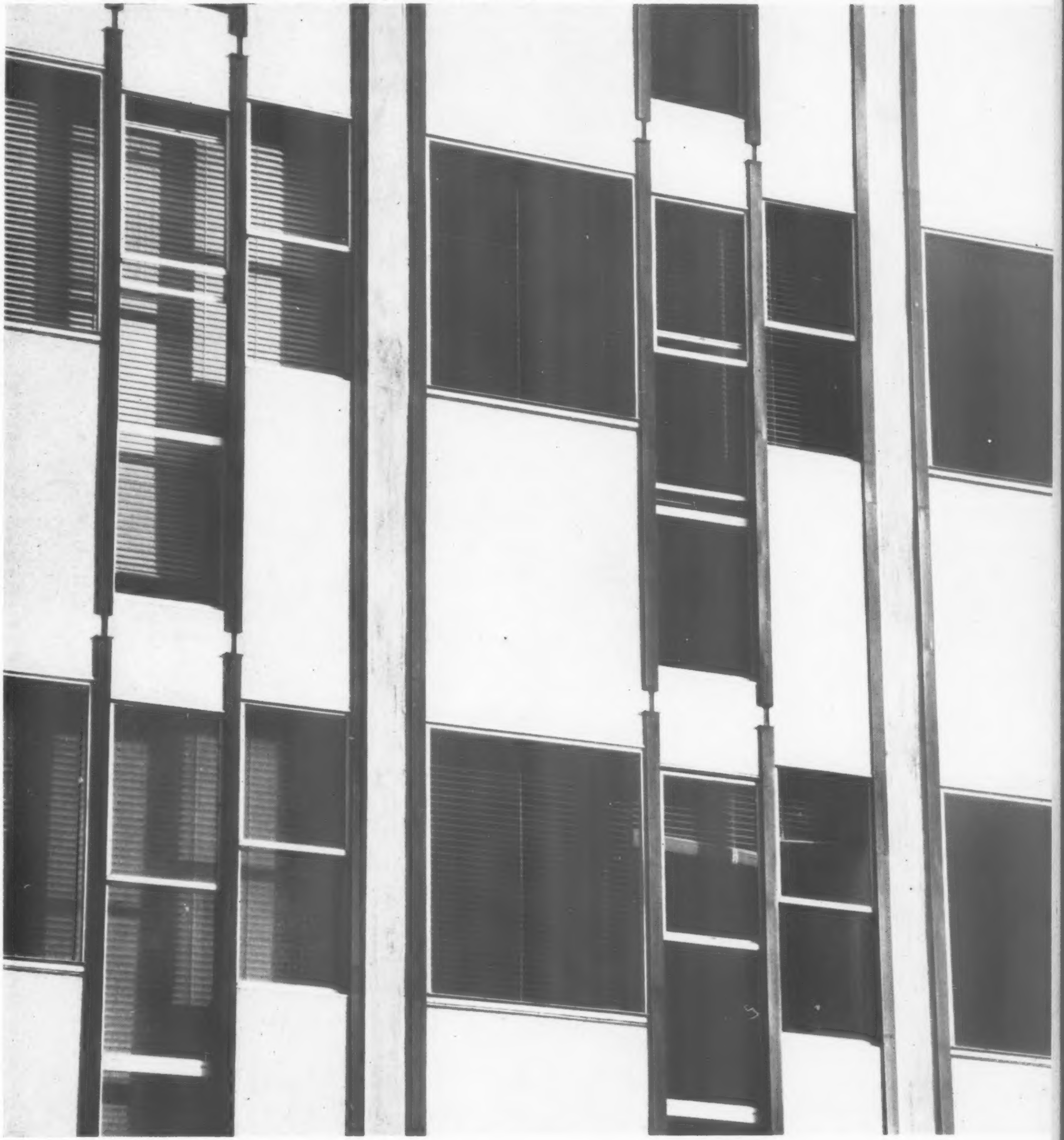

pressed aluminium reflector, painted white
1" dia. copper hot-water pipe
pressed aluminium trays in two sections
suspension rod and tray holder
suspension rod and tray holder

PART PLAN. scale ¼ full size

note: figured dimensions in feet and inches are approximate

## CURTAIN WALL: OFFICE BLOCK IN MILAN

*Vico Magistretti, architect. (Material supplied by Derek C. Thomas)*

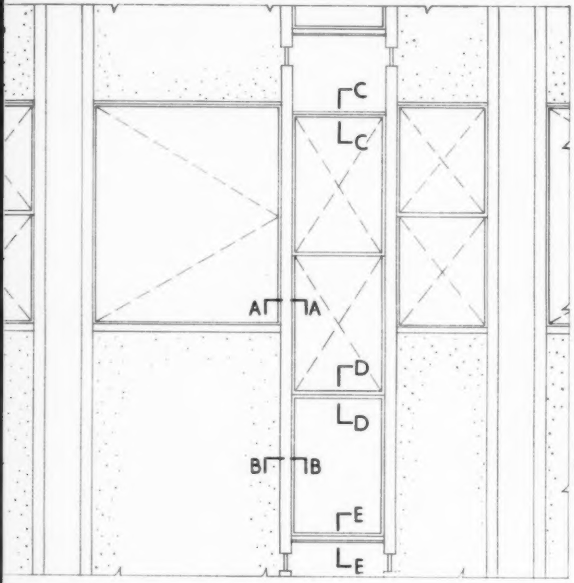


*This detail is interesting on two counts. First as a variation on the typical office block cladding. The height of the opaque panels (infilling, white granite) is determined by the height of the filing cabinets. Though it is not apparent in this close-up photograph, the disposition of solids and voids on the facade gives an effect of " depth " which is unique in panel construction. The second point of interest is the build-up of the detailing from pressed steel and aluminium extrusions. Though not all the junctions would be acceptable in our climate, the inventive use of snap-on sections to make " aluminium joinery " deserves study.*

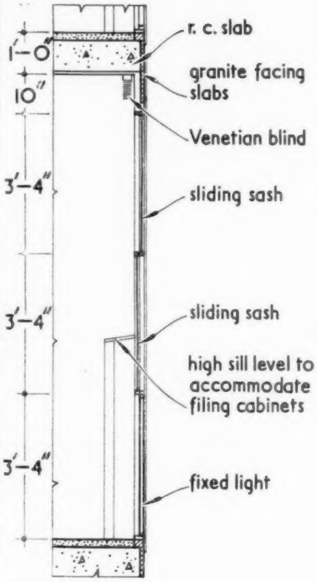
**working detail**

## CURTAIN WALL: OFFICE BLOCK IN MILAN

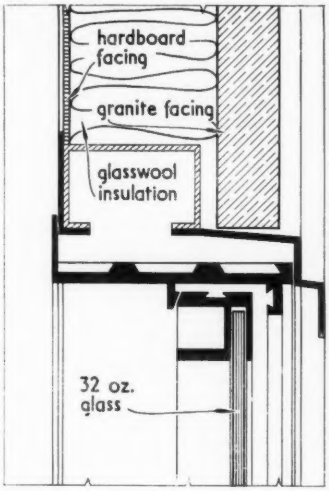
*Vico Magistretti, architect. (Material supplied by Derek C. Thomas)*


C
C
A A
D
D
B B
E
E

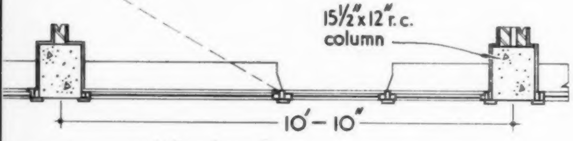
ELEVATION. scale ¼" = 1'– 0"


1'–0"
10"
3'–4"
3'–4"
3'–4"
r. c. slab
granite facing slabs
Venetian blind
sliding sash
sliding sash
high sill level to accommodate filing cabinets
fixed light

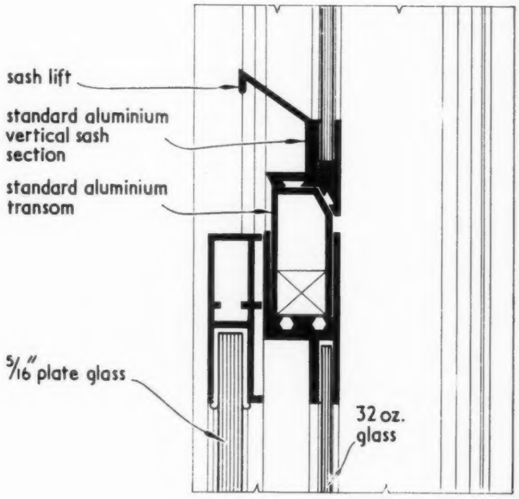
SECTION.


hardboard facing
granite facing
glasswool insulation
32 oz. glass

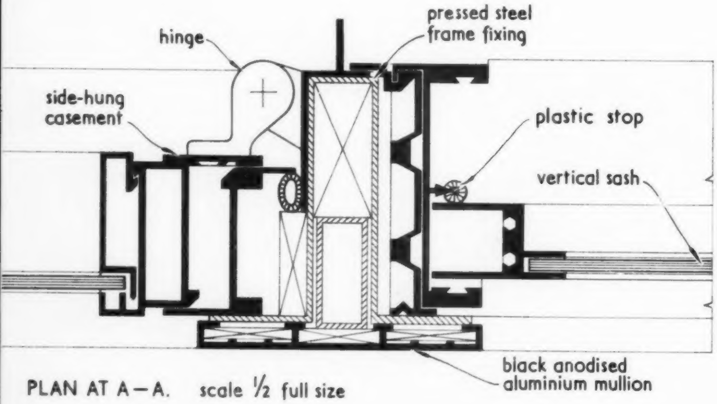
SECTION C–C.


15½"x12" r.c. column
10'– 10"

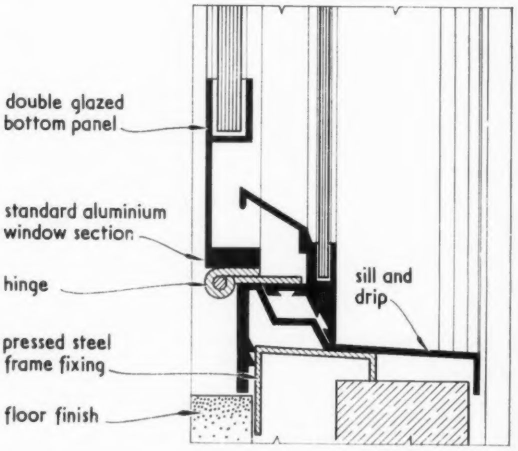
PLAN. scale ¼" = 1'– 0"


sash lift
standard aluminium vertical sash section
standard aluminium transom
5/16" plate glass
32 oz. glass

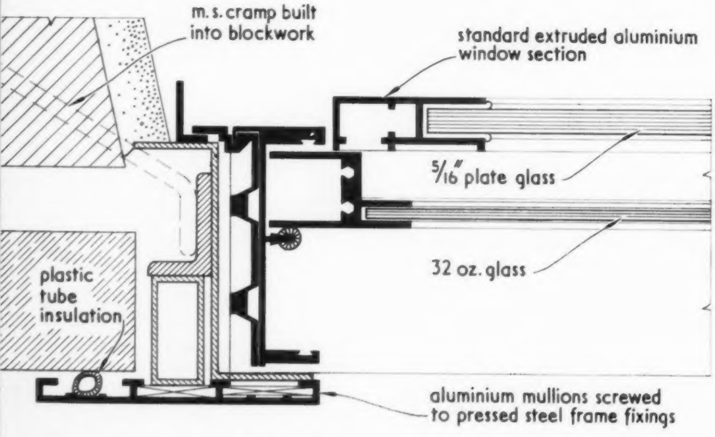
SECTION D–D.


hinge
pressed steel frame fixing
side-hung casement
plastic stop
vertical sash
black anodised aluminium mullion

PLAN AT A–A. scale ½ full size


double glazed bottom panel
standard aluminium window section
hinge
sill and drip
pressed steel frame fixing
floor finish

SECTION E–E. scale ½ full size


m. s. cramp built into blockwork
standard extruded aluminium window section
5/16" plate glass
32 oz. glass
plastic tube insulation
aluminium mullions screwed to pressed steel frame fixings

PLAN AT B–B. scale ½ full size

note: figured dimensions in feet and inches are approximate

# BROUGHTON MOOR LIGHT SEA GREEN STONE

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***(Architects: Messrs. Priestman & Lazenby.)***

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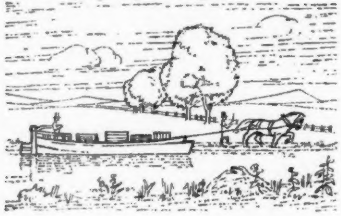

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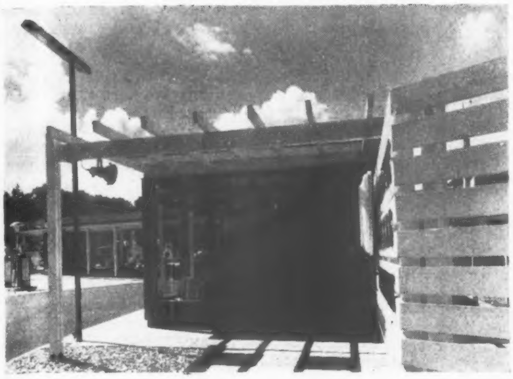
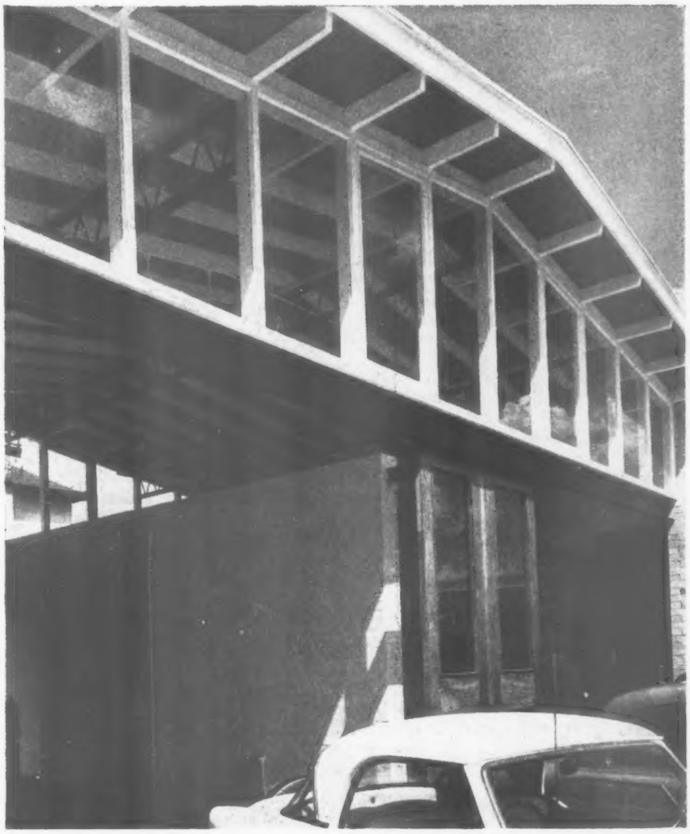
# PETROL FILLING STATION AT WELWYN, HERTS.



*This filling station on the Great North Road at Welwyn was designed by Hughes and Bicknell, adapting the standard Shell-Mex and BP building. It stands on a wedge shaped site at a major road junction. The construction is traditional except that the pitched roof is supported on lattice girders welded to vertical steel tees standing on the rear wall and the channel over the main doors, as seen in the photograph right, the sales kiosk at the end of the covered way which divides the site into two forecourts, at different levels, each with petrol pumps servicing one of the main roads.*



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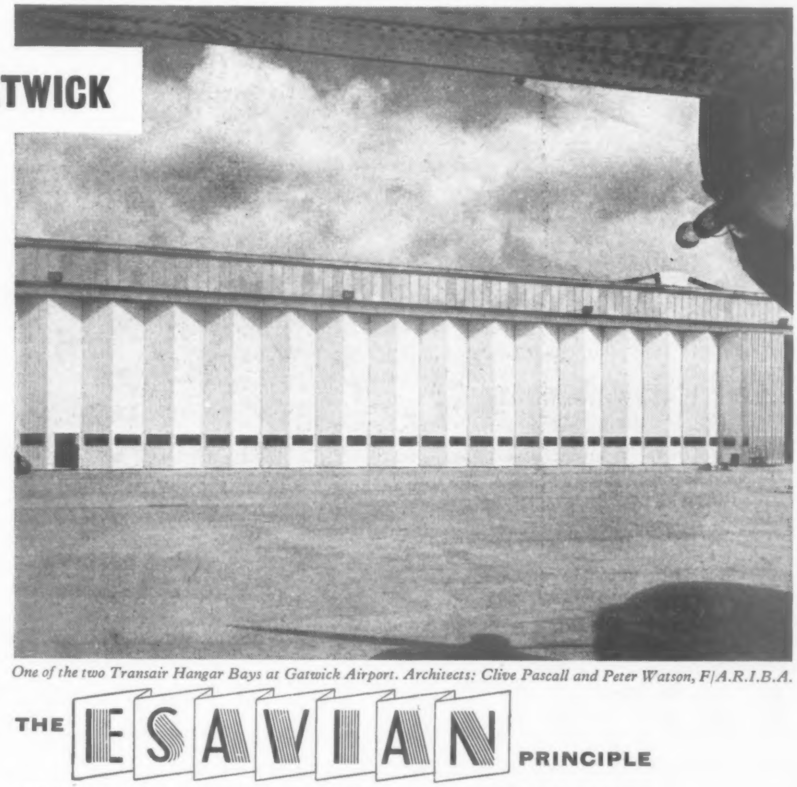

*One of the two Transair Hangar Bays at Gatwick Airport. Architects: Clive Pascall and Peter Watson, F/A.R.I.B.A.*

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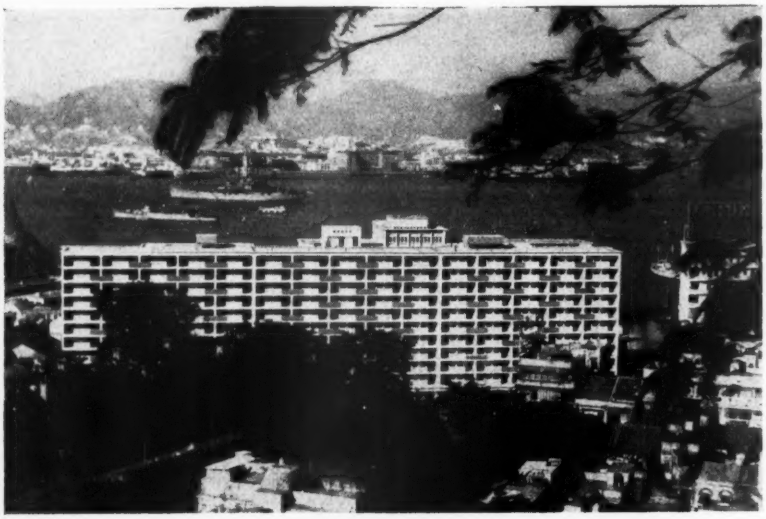
## FLATS FOR HONG KONG POLICE FORCE



*Faced with a big jump in population, the Hong Kong Architectural Office has been faced with a corresponding demand for new public buildings, schools and housing, and above is a general view of flats recently completed for 300 rank and file policemen and their families, with a primary school for 500 children on the ground floor. This building is of box framed reinforced concrete on piled foundations, and the standard of accommodation presumably reflects the state of overcrowding in the city. A typical floor plan provides balcony approach, served by two lifts and staircases, to 30 single room family units with own balcony and kitchen unit; all sharing communal toilet, washing and drying facilities.*

## Announcements

Richard Clarke, A.R.I.B.A., has now moved to flat 3, 42, Norwood Avenue, Southport, Lancs.

Sissons Brothers & Co. Ltd. have transferred their London organization from Plaistow to Shepherds Bush.

H. P. Lord, A.F.C., B.SC., the present General Sales Manager of Sigmund Pumps Ltd. has been appointed to the board of directors.

A. W. Russell has been appointed Technical Representative for Snapdek Ltd., Chester Street, Aston, Birmingham, 6.

John D. W. Heward, overseas sales manager of Turners Asbestos Cement Co. Ltd., is touring Sierra Leone, Liberia, Ghana and Nigeria until December 22. The purpose of his visit is to foster a closer relationship among the company's customers and users of their products in these countries.

E. C. Corder has been appointed London Contract Manager of D. Anderson & Son Ltd., Old Ford, London, E.3.

## Corrections

In the JOURNAL of November 27 the proposed Hall of Residence designed by Easton and Robertson was described as being at Whiteknights Park, the new site of Reading University. This is incorrect: the building illustrated will be adjacent to an existing Hall of Residence some distance from the Park.

Messrs. Robertson Thain Ltd. were contractors for the roof covering of the Empire Pool, Cardiff, cost analysed in the JOURNAL for November 27.

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**calls for**
**IBSTOCK FACING BRICKS**

Ibstock facing bricks were chosen for this major road development because they are hardwearing and very attractive in appearance.

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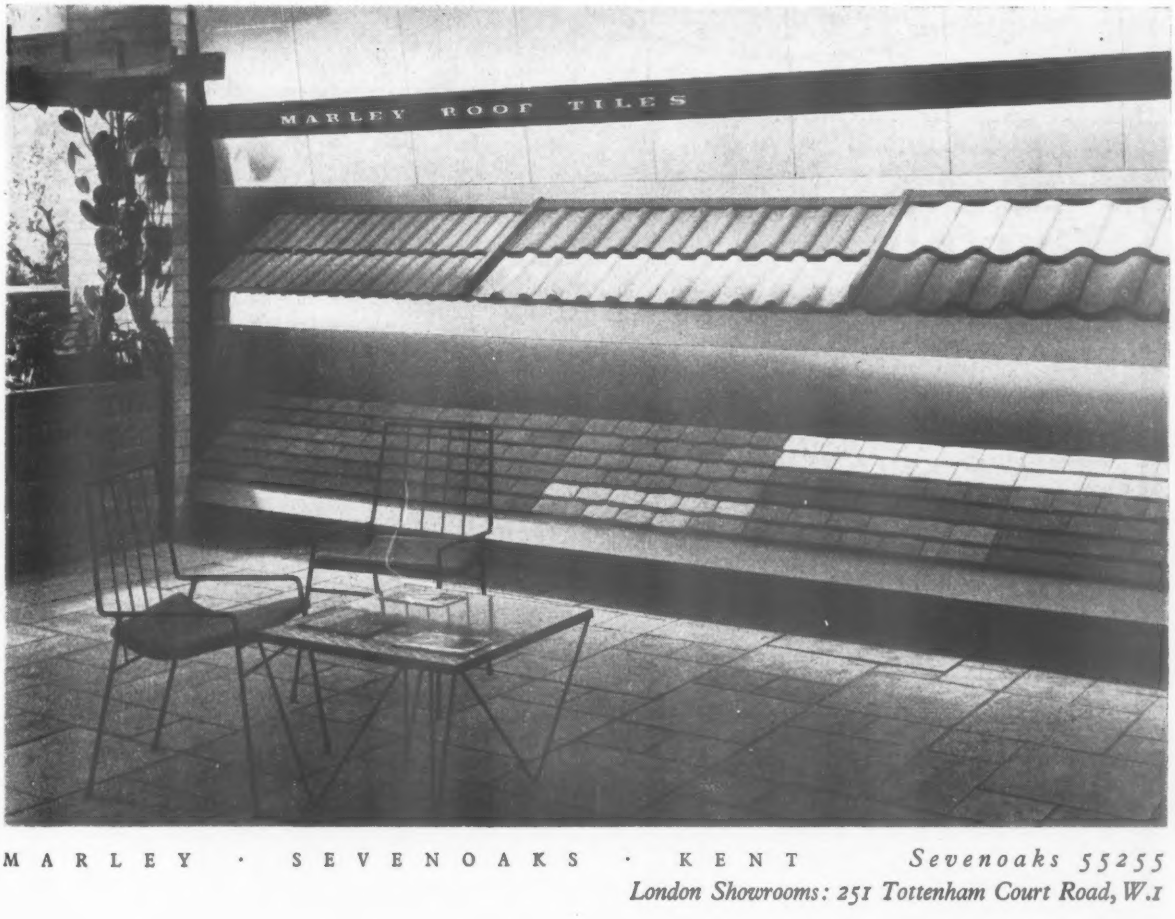

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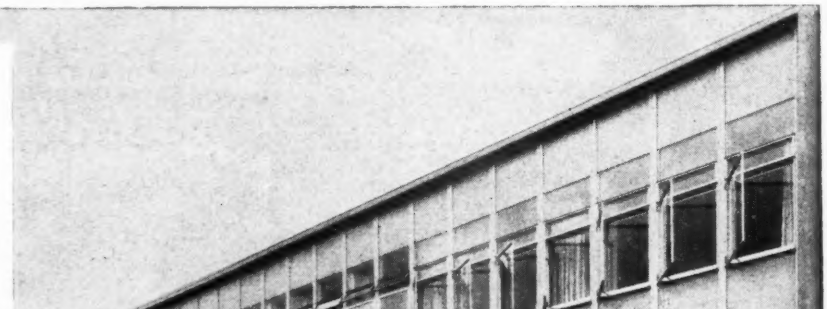
All framing is of aluminium. The specially constructed mullions incorporate internal channel uprights to receive partitions. Vents are T.H., H.P.H. and S.H. (double windows). In-fill at spandril and below head is pale blue Muroglass.

*New Offices: Smiths Stamping Works (Coventry) Ltd., Ribble Road, Coventry.*
*Architects:*
*Redgrave & Clarke, A./F.R.I.B.A.*



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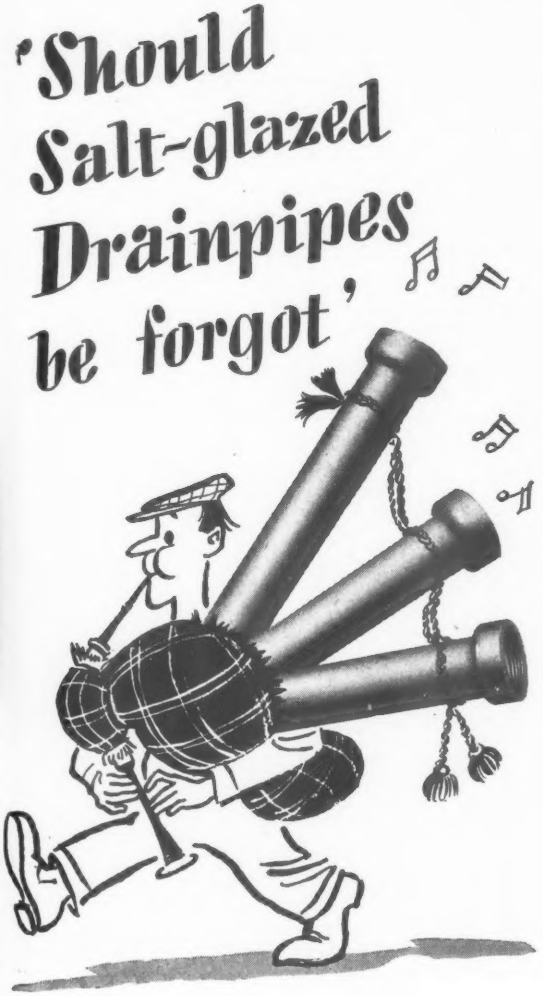

Should salt-glazed drainpipes be forgot
And never brought to mind?
Yes, if they're DOULTON pipes, m'lad,
They're down for good, you'll find.

Now here's a canny tip, m'boy,
From th' mon that knows the style.
These 3 ft. pipes save eight-eighty joints
In a run of a Scottish mile.

So take a tip from me, m'lad,
If you the best would find,
And specify a DOULTON pipe
For the sake of peace o' mind.

And specify a DOULTON pipe
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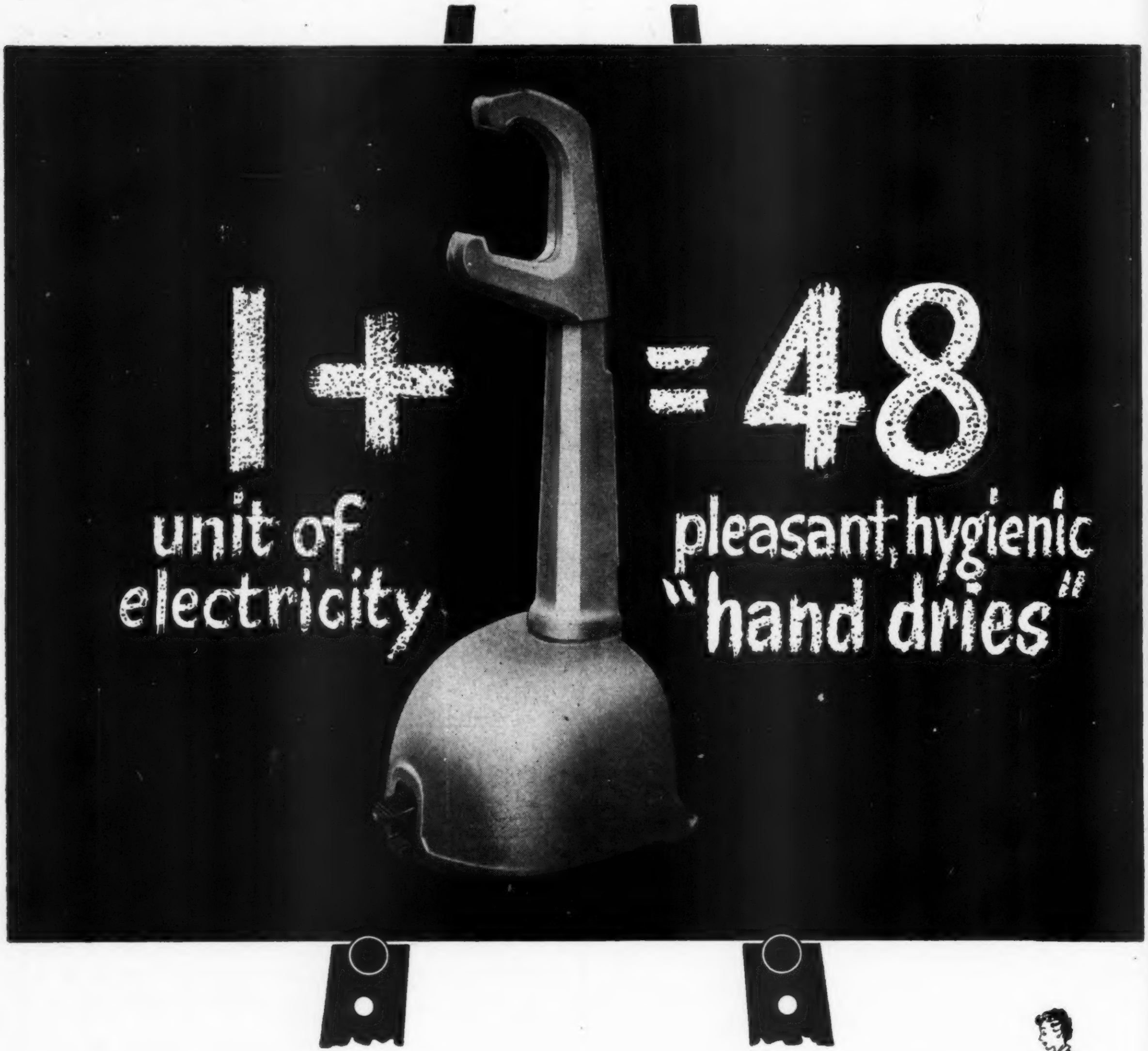

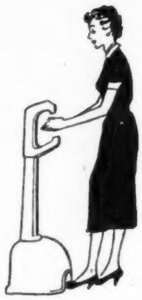

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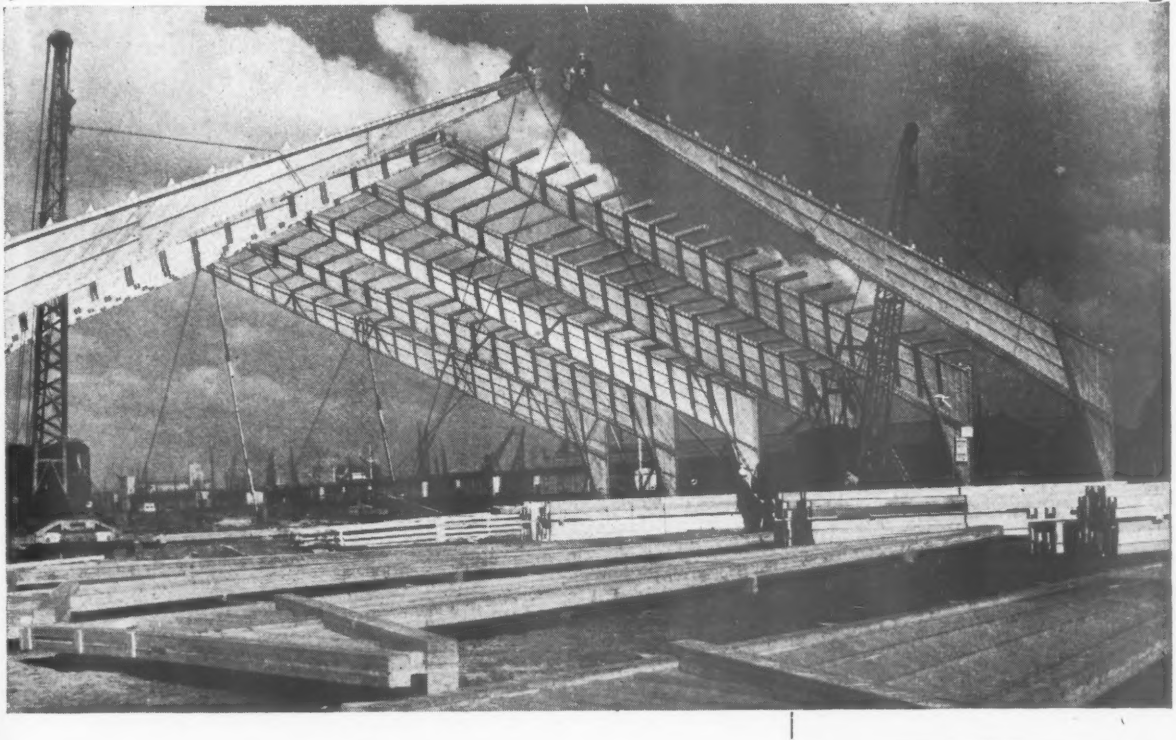
# The **HB** System of Timber Construction



The H.B. system of timber construction has been used for twenty years in Scandinavia for every sort of wide span roof structure from barns to factories and from school halls to aircraft hangars. We have acquired the sole licence to manufacture in the United Kingdom under British Patent No. 754,303 and are now in production. The system is based upon the use of glued laminated flanges and boarded webs through-nailed together to form a versatile I section. Designs are prepared in our own office to meet the specified functional and architectural needs of each project. Some of the special merits of H.B. are:—

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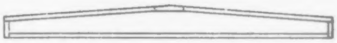
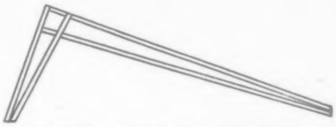
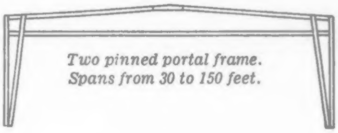


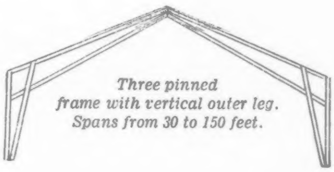
*Ridge beam. Spans from 20 to 100 feet.*



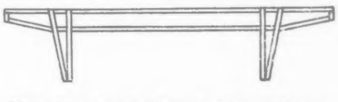
*Northlight. Spans from 25 to 80 feet.*



*Two pinned portal frame. Spans from 30 to 150 feet.*



*Three pinned frame with vertical outer leg. Spans from 30 to 150 feet.*



*Two pinned portal frame with cantilevers. Spans from 15-40-15 to 30-80-30 feet.*

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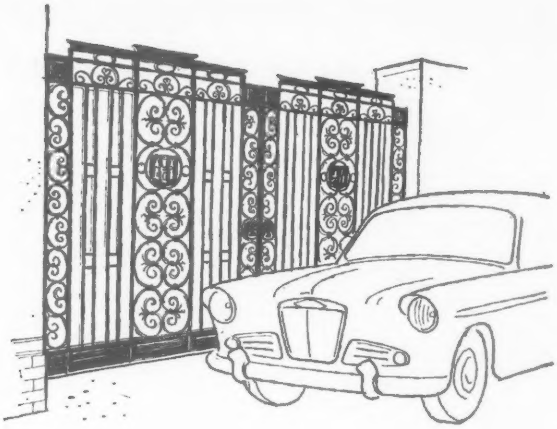

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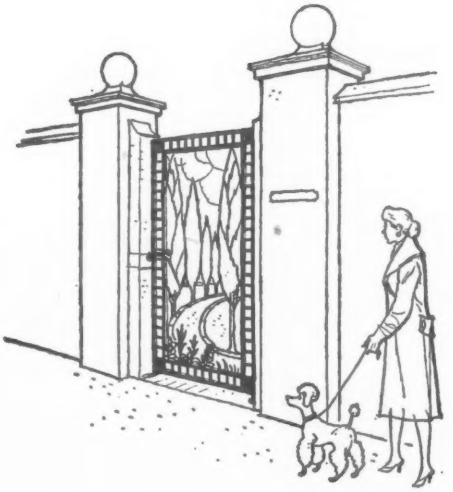

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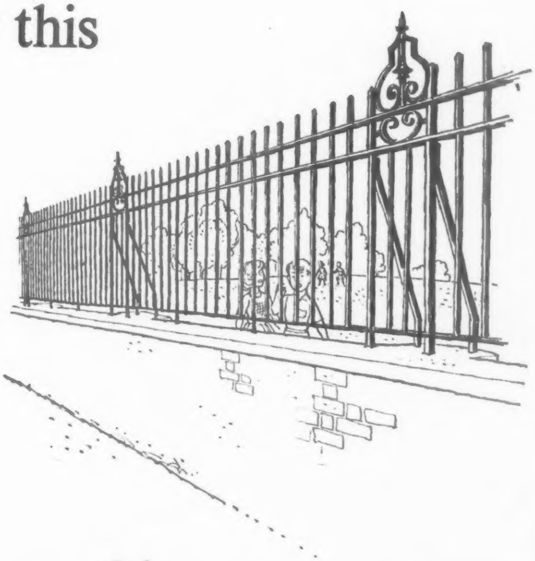

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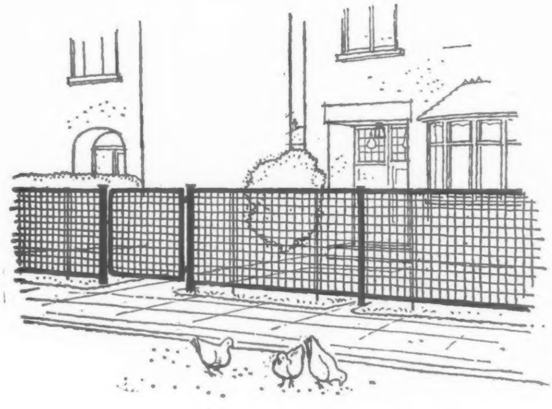

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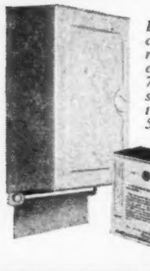
Men like it because it makes life at work more comfortable. And when life at work is more comfortable staff relations are better.



*Locking steel cabinets with refill indicator, each holding 760 (approx.) sheets of pure toilet tissue 5" x 5¾"*

**Wise Managements know that better staff relations always pay off. Wise architects include Onliwon in all industrial specifications.**

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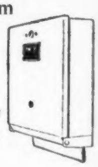

*Locking Steel cabinets in green or white, each holding 150 large, strong absorbent paper towels.*

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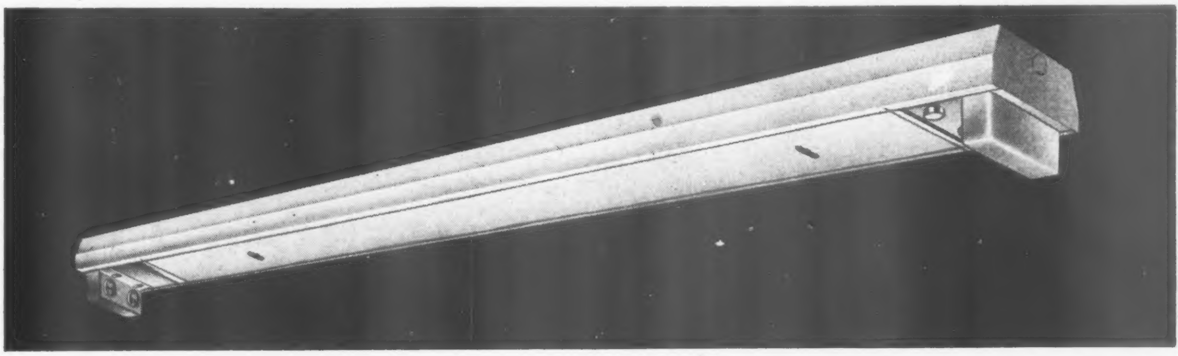

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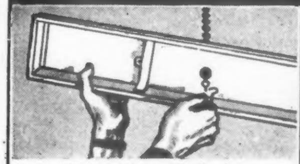
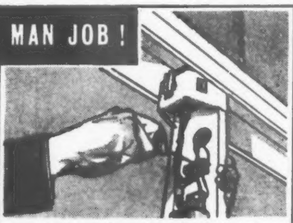
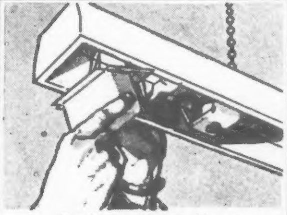


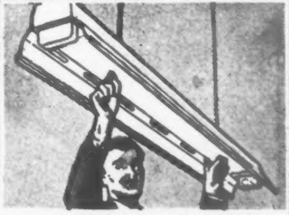
**1** *Empty spine easily fixed to conduit, chain, universal suspension or ceiling. The 5ft. spine weighs only 7 lbs.*



**2** *Control gear tray hooked at one end into spine, hangs vertically leaving both hands free to make connections. Tray swung into final position and firmly fixed with captive wing nut.*



**3** *Ready wired lampholder assemblies slotted into spine. The gear tray and lampholders for the single 80W fitting weigh only 9 lbs.*



**4** *Reflector or coverplate attached to fitting by two turn-buttons. Tube(s) inserted into spring-loaded lampholders.*

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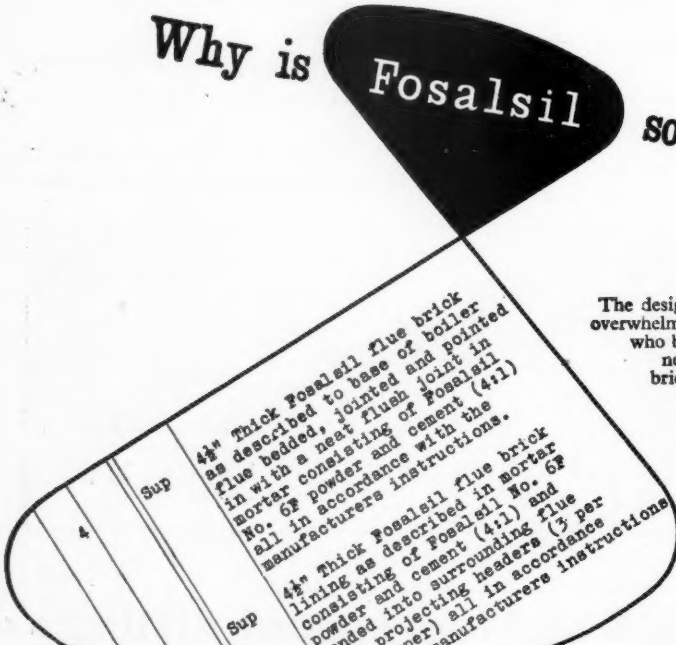
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4½" Thick Fosalsil flue brick as described to base of boiler flue bedded, jointed and pointed in with a neat flush joint in mortar consisting of Fosalsil No. 6F powder and cement (4:1) all in accordance with the manufacturers instructions.
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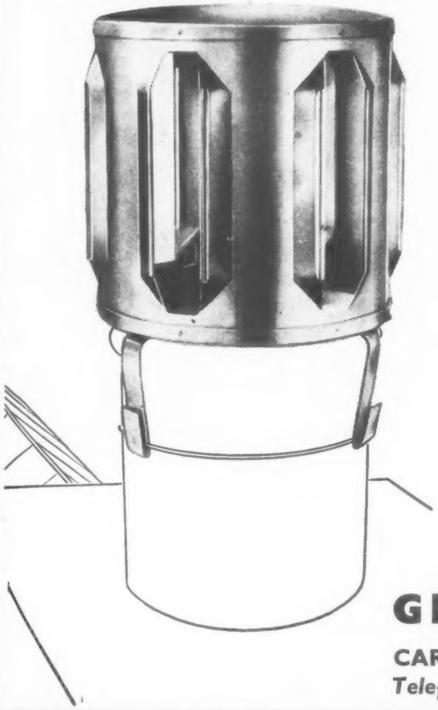
**Greenwood Dual-Purpose Cowl**



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The circular construction prevents wide fluctuation in updraught by constant changes in wind direction and allows a gentle form of positive ventilation in the room over which it is fitted.

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Aerodynamically designed to harness wind currents of varying strength and direction, the Greenwood Cowl has proved its efficiency after being rigorously tested under severe practical conditions.

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Even on exposed elevations the circular design offers an extremely neat and unobtrusive appearance, in keeping with the shape of the normal chimney-pot.

★ **GUARANTEED**
Greenwood Cowls are supplied under guarantee. Please write for details to :

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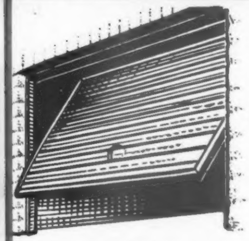

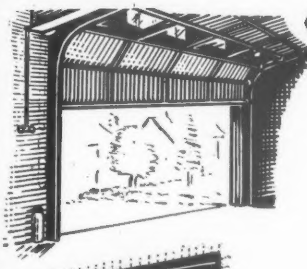

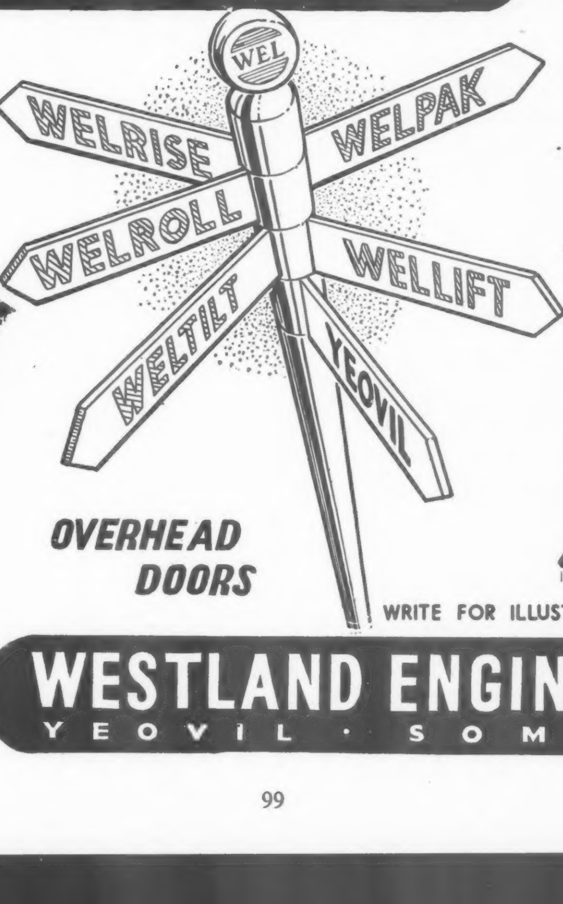

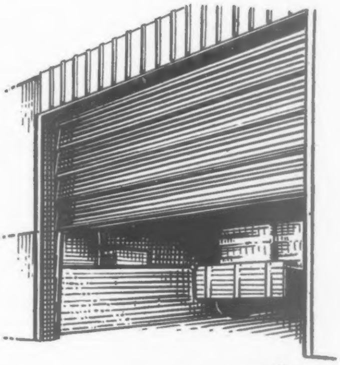

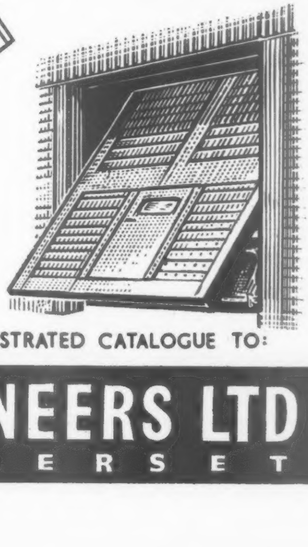

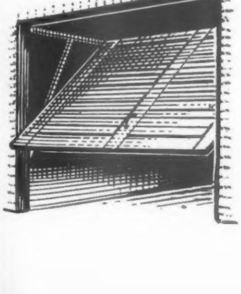

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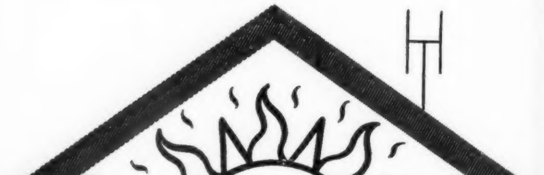

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There have been many plans to provide London with a modern road system. They have almost all been overtaken by events and the sheer volume of traffic before they could be put into operation.

Such improvement schemes that are envisaged, while undoubtedly providing localised relief, do not in total amount to a concerted, effective and realistic attack on the position.

The problem of movement in London is now increasingly urgent. To encourage a new appraisal of the situation, the Roads Campaign Council are offering more than £4,000 in prizes for a long-term plan of highway development in the London area.

**FIRST PRIZE: *£2,000***
**SECOND PRIZE: *£1,000***
**THIRD PRIZE: *£500***

**And three additional awards of *£250* each.**

*The Council have appointed as assessors:*

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Professor of Town Planning, University College, London.

Professor W. Fisher Cassie, Ph.D., F.R.S.E., M.I.C.E.,
Professor of Civil Engineering,
King's College, University of Durham.

Mr. Colin D. Buchanan, B.Sc., A.R.I.B.A., A.M.I.C.E., M.T.P.I.,
author of "Mixed Blessing: The Motor in Britain".

Full details and relevant information on the London traffic situation will be sent on receipt of a £2 deposit, which will be refunded on receipt of a bona fide entry or alternatively on the return of the competition documents by April 7th, 1959.

ROADS CAMPAIGN COUNCIL
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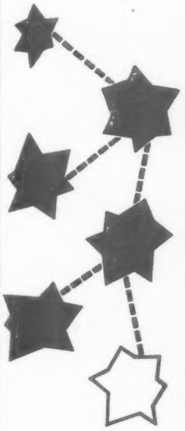

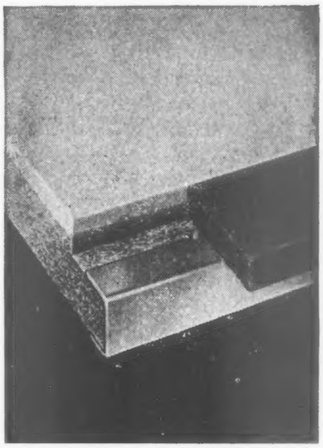

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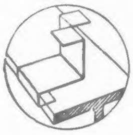

*This slab is intended for use on shallow or steeply pitched roofs and when used in conjunction with inverted "T" purlins, no special fixing arrangements are necessary.*
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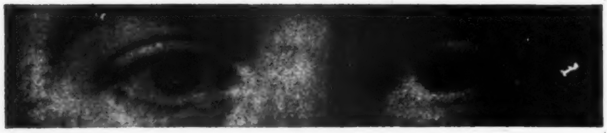

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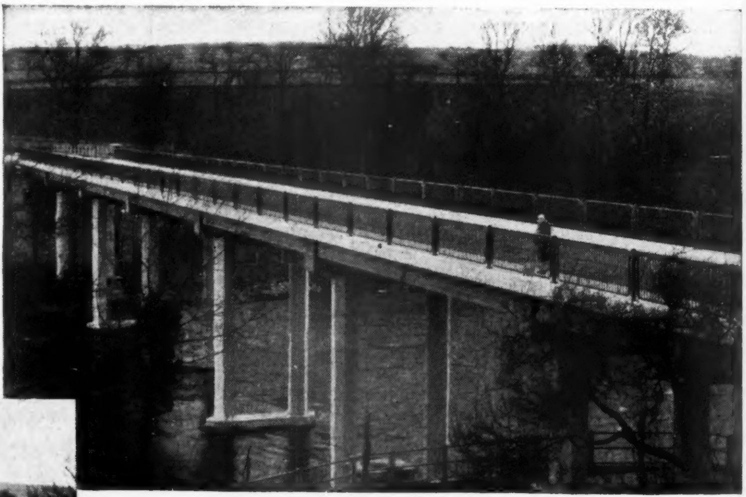

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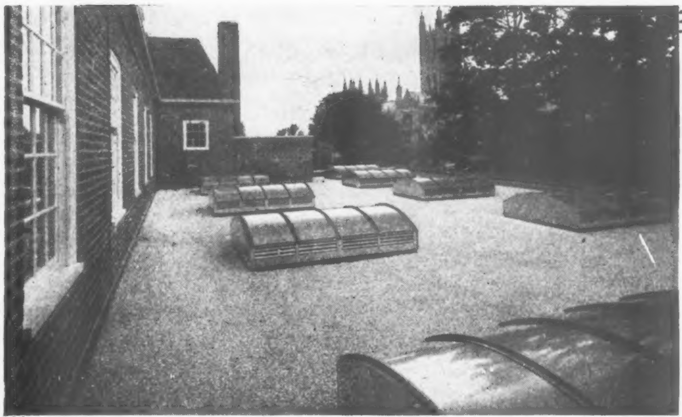

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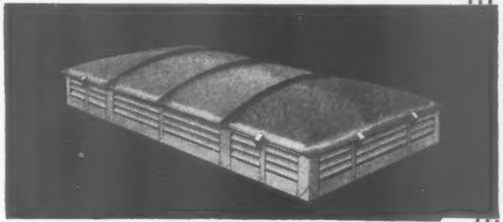

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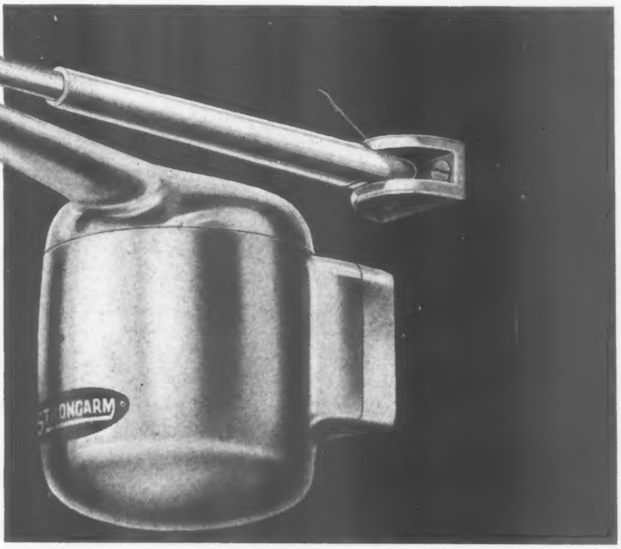

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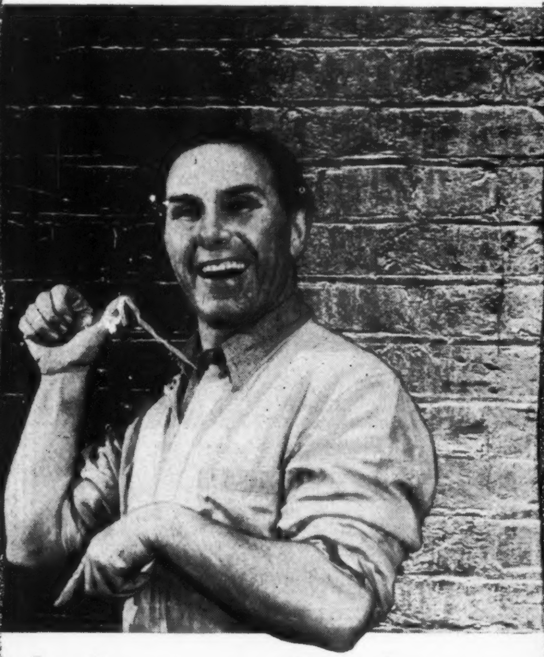

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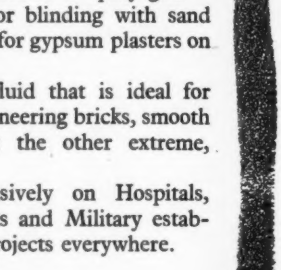

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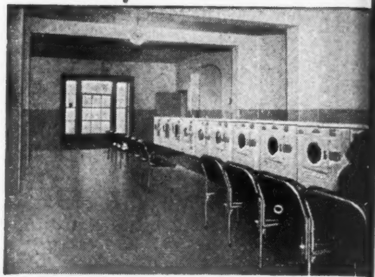

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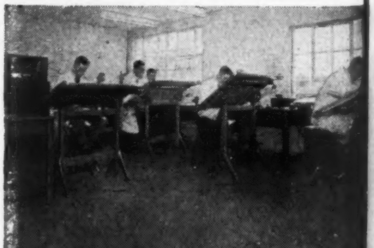

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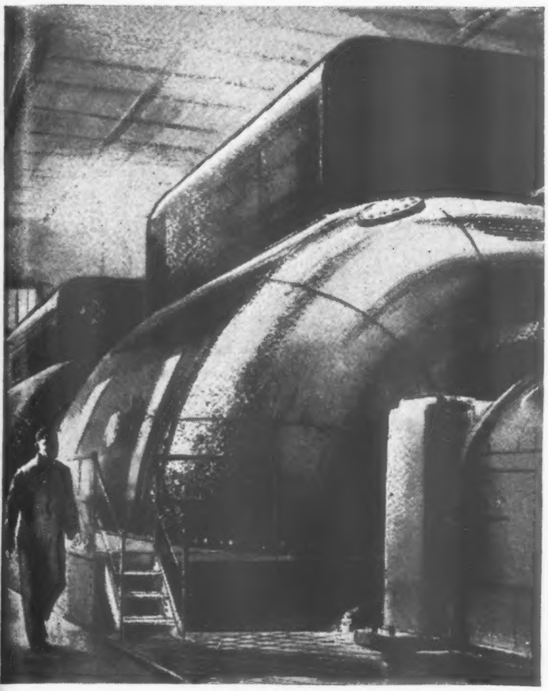

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The development of nuclear energy for generating electricity is still front-page news. Less publicised, though no less outstanding, are new developments in "conventional" generating plant. The turbo-alternator shown here is a 550,000 kilowatt unit – twice the capacity of the next largest on order for the Central Electricity Generating Board. It has been designed for the projected new power station at Thorpe Marsh. For Blythe 'B', another new station, 275,000 kilowatt in-line units are on order. They will be powered by steam at 2,350 lb. per sq. in. and 1,050°F, with reheat to 1,000°F.

Nuclear power will play an important part in meeting the ever-increasing demand for electricity. Work is now in progress on the first three nuclear power stations, at Bradwell, Berkeley and Hinkley Point. By 1966/7 some 5 to 6 million kilowatts of nuclear-generated electric power will be available.

Though these projects will not be completed for some time, the Central Electricity Generating Board plays an important part in today's fight against inflation. Power stations are being built at a cost no greater than in 1948 – £50 per kilowatt installed. And, although the output of the industry has doubled since 1948, the increase in manpower is only about one-third.

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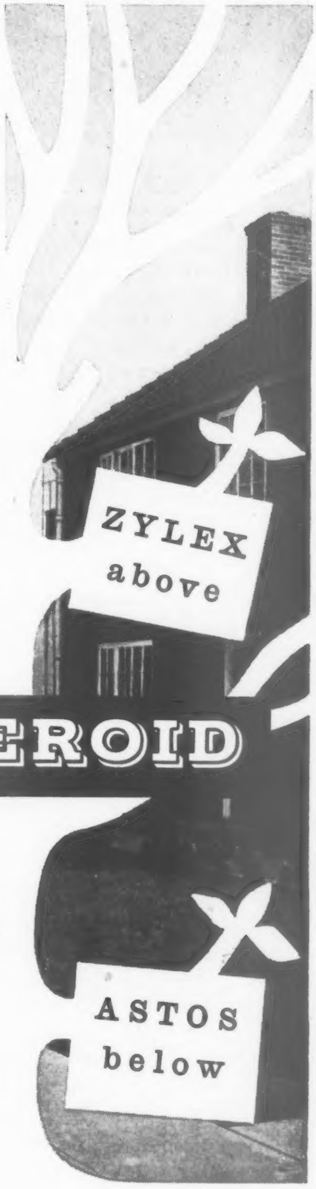

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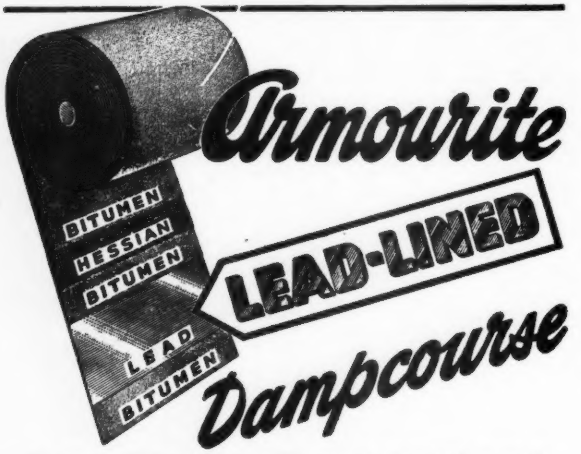

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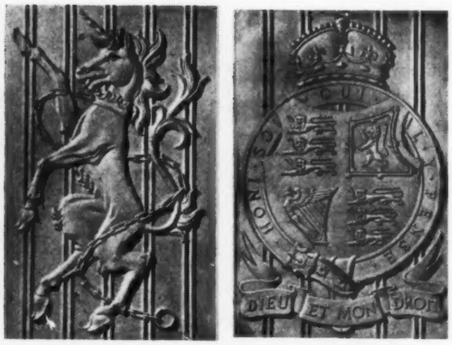

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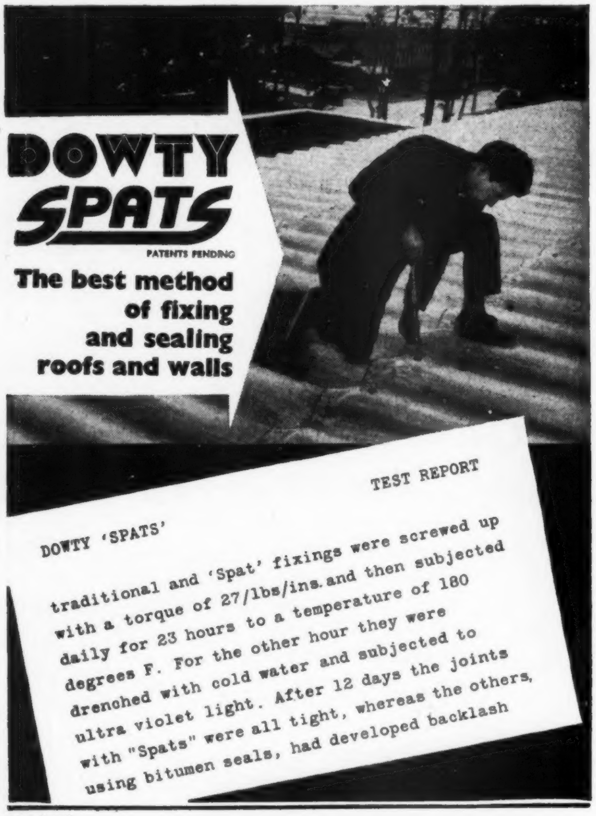
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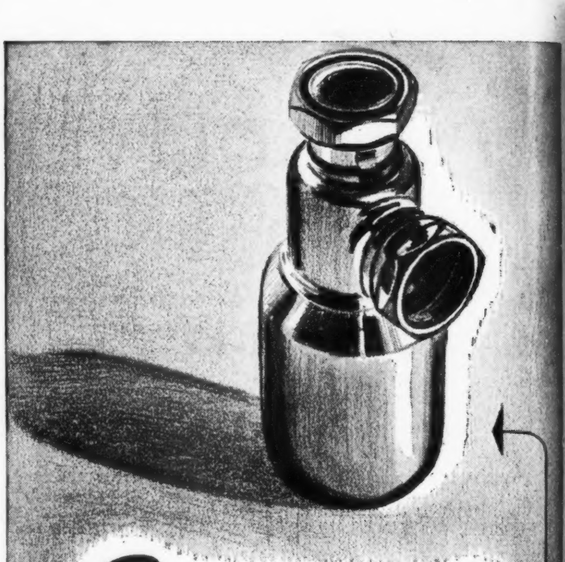

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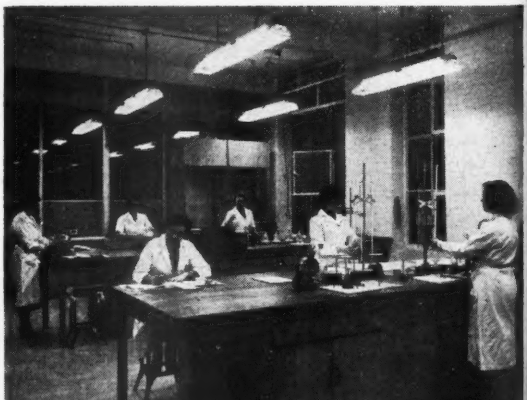

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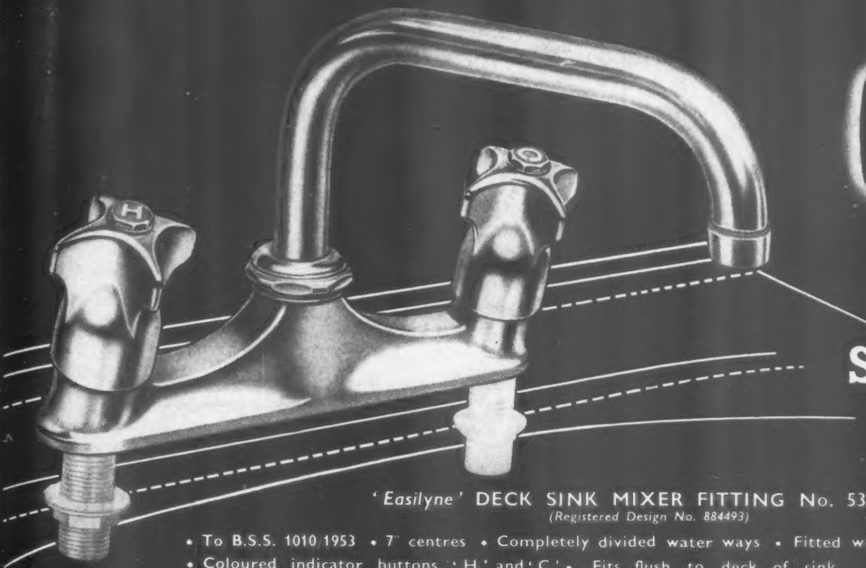

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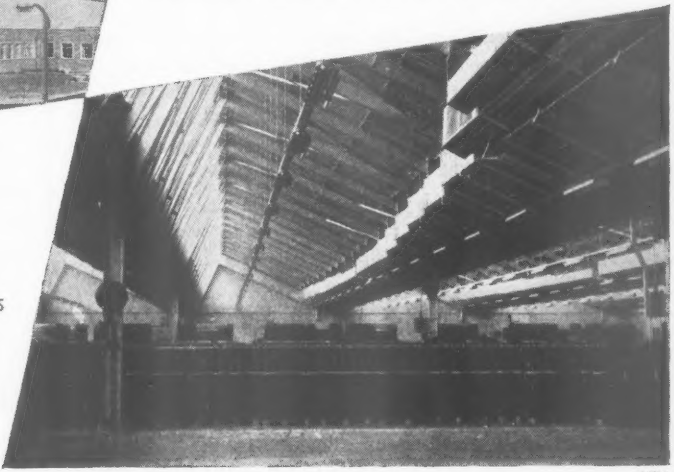

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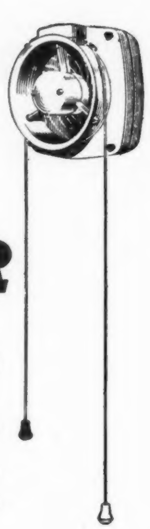

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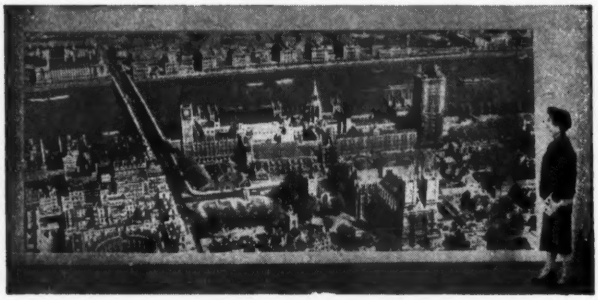

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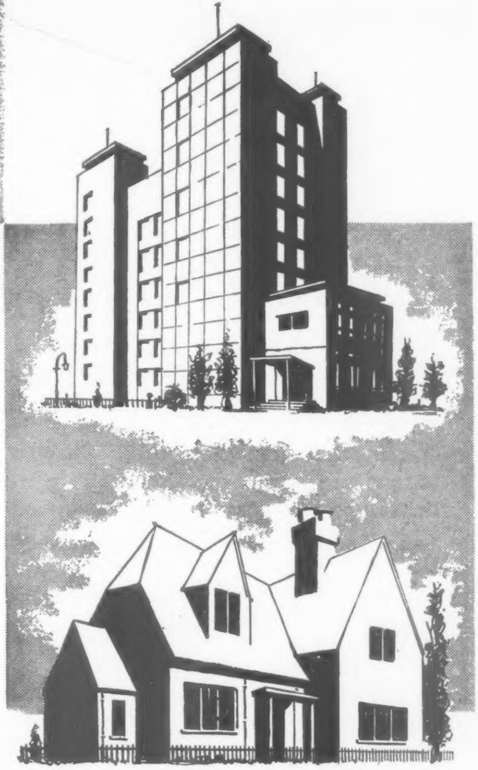

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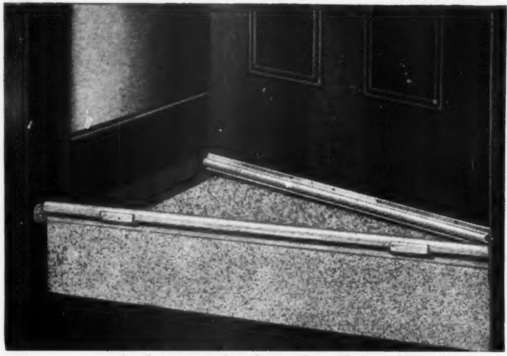

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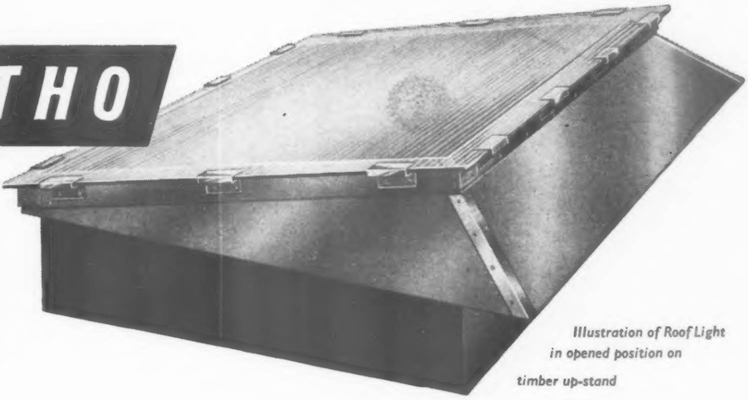

*Illustration of Roof Light in opened position on timber up-stand*

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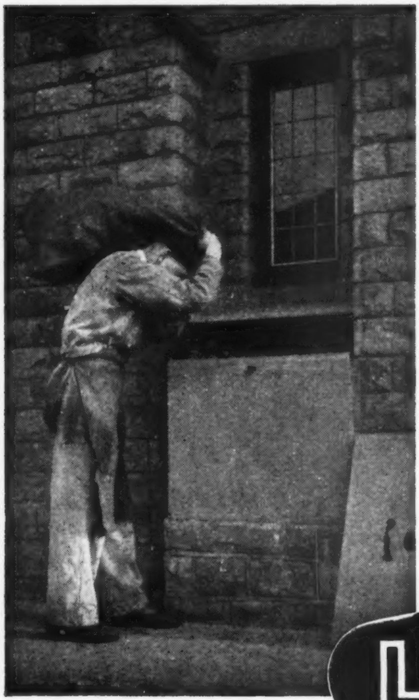

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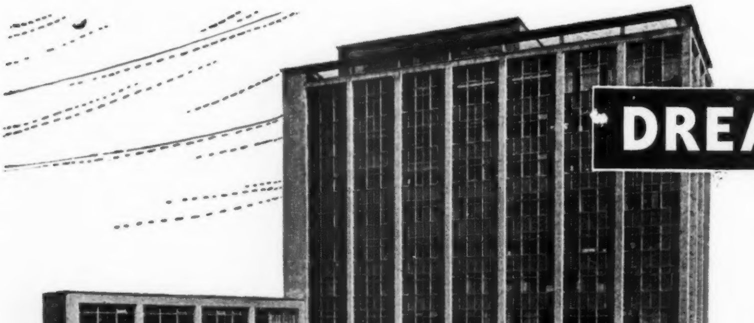

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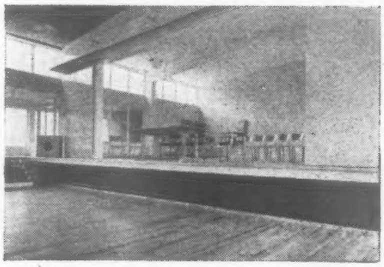

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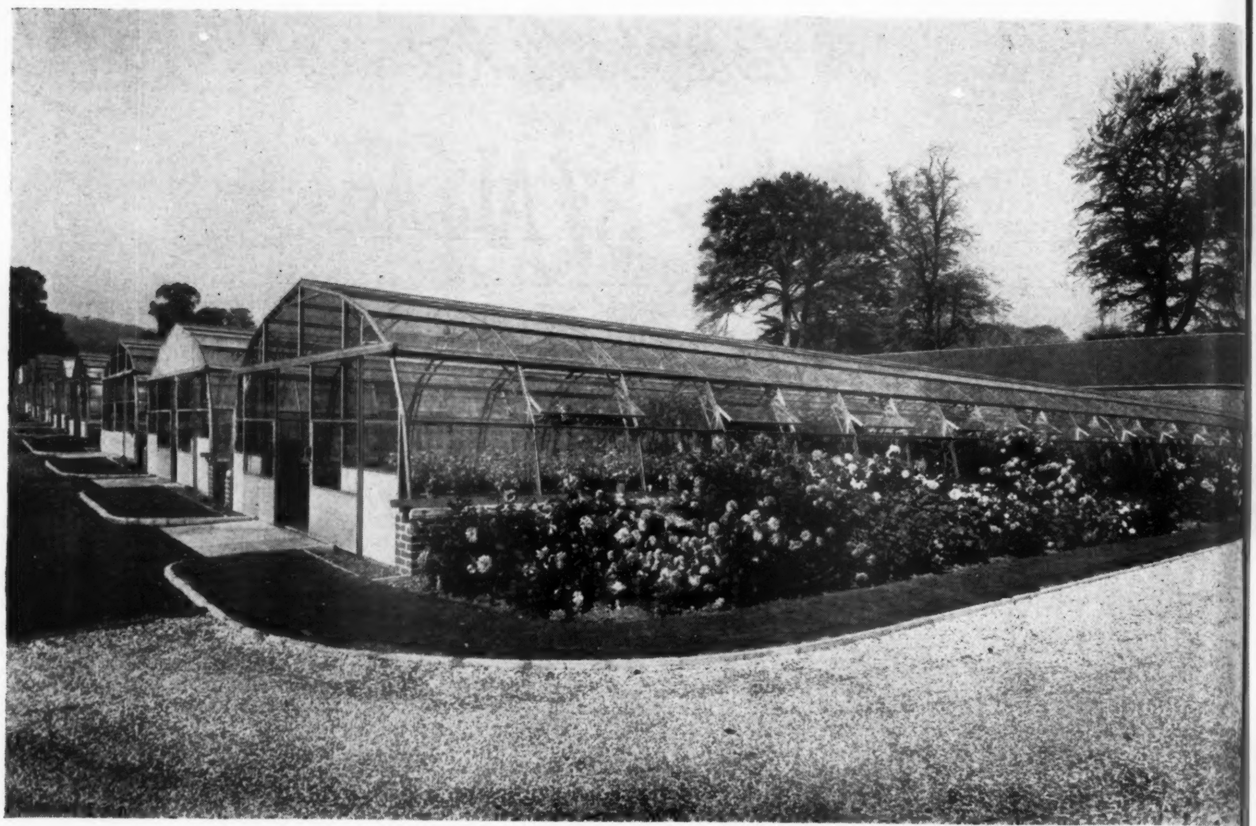

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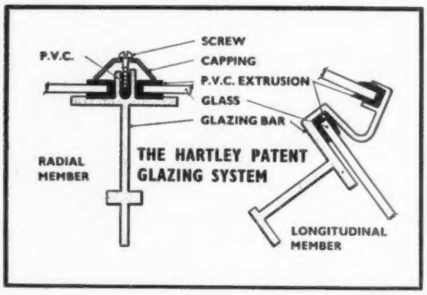

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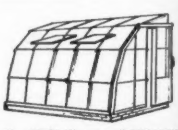
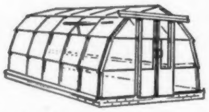
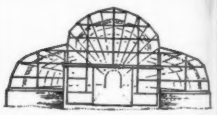
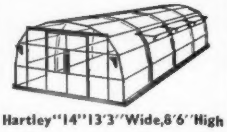
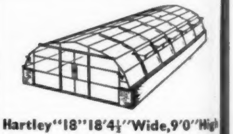
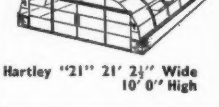
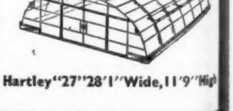
| **This is the full range of Hartley Glasshouses. Built to any length.** | <br>Hartley "7" (Lean-to) 7'3" Wide 7'9" High |
| <br>Hartley "10" 10'0" Wide, 7'1" High | <br>Palm House 38'6" Wide, 18''6' High |
| <br>Hartley "14" 13'3" Wide, 8'6" High | <br>Hartley "18" 18'4½" Wide, 9'0" High |
| <br>Hartley "21" 21' 2¼" Wide 10' 0" High | <br>Hartley "27" 28'1" Wide, 11'9" High |

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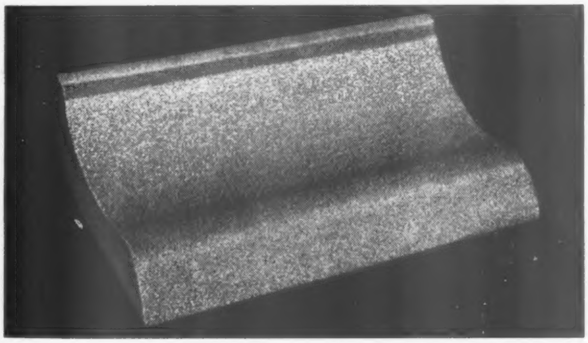

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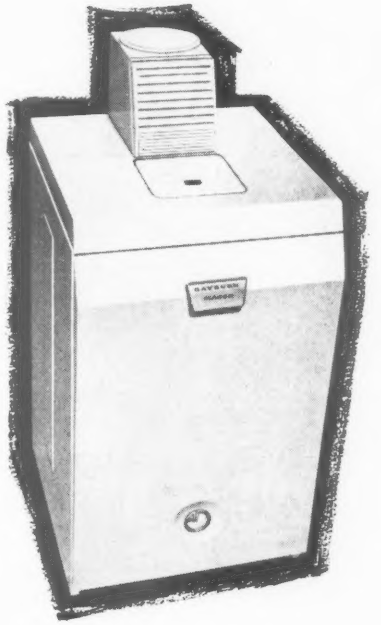

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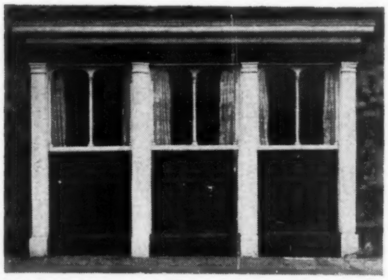
## DECEMBER

Workshop Annexe: new stores, paint shops, etc., for the Old Vic, ingeniously packed under some awkward day-lighting angles by Lyons Israel and Ellis, and fully illustrated in this issue.

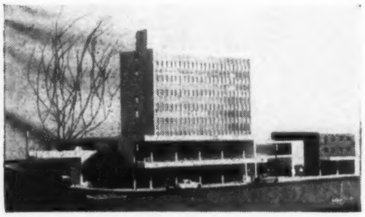


Pub Front: frame and fill on the facade of the Crown and Mitre, King's Lynn: one of the illustrations to an assessment of the aesthetic and functional aspects of pub exteriors and their future.

Seagram completed; and dwarfing even the Cadillac in foreground, the glass and bronze Seagram Building by Philip Johnson and Mies van der Rohe will be fully discussed and—tentatively—evaluated.

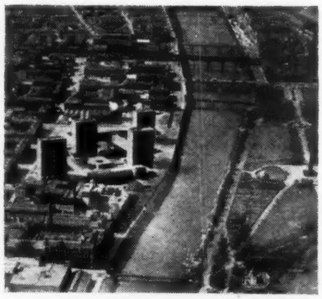
## JANUARY

### Special Preview Issue

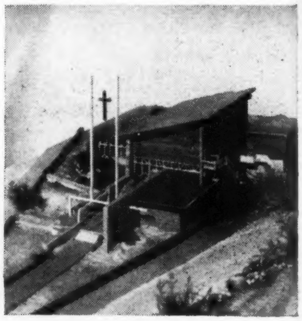


New Town Multi-storey; an office block for the town centre of Hemel Hempstead, designed by H. K. Ablett, chief architect to the Development Corporation.

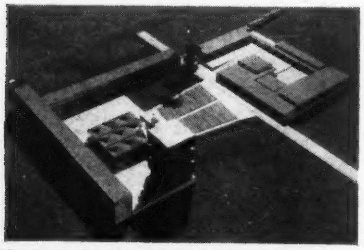
High Gorbals: a redevelopment area in Glasgow, by Robert Matthew and Johnson Marshall, one of a number of housing-schemes pre-viewed in this issue.



Northern Methodist: a projected church in Fulwell, Co. Durham, designed by S. W. Milburn and Partners for a Methodist congregation.



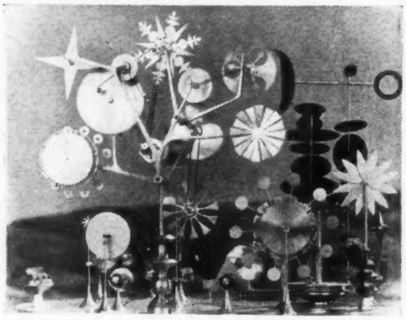
## FEBRUARY



Nigerian University; Library, Arts Faculty, Administration and Students' Union buildings, and an open-air auditorium, at Nsukka, Eastern Nigeria, designed by James Cubitt and Partners, and pre-viewed in this ssue.

Spec and Span: this house at Teddington is among the buildings discussed in a full-dress survey of Eric Lyon's Span speculative developments by R. Furneaux Jordan.

Sun-Mill; the ingenious solar toy designed by the ever-inventive Charles Eames, to dramatise the potentialities of the sun as a source of energy, a cosmic mobile.



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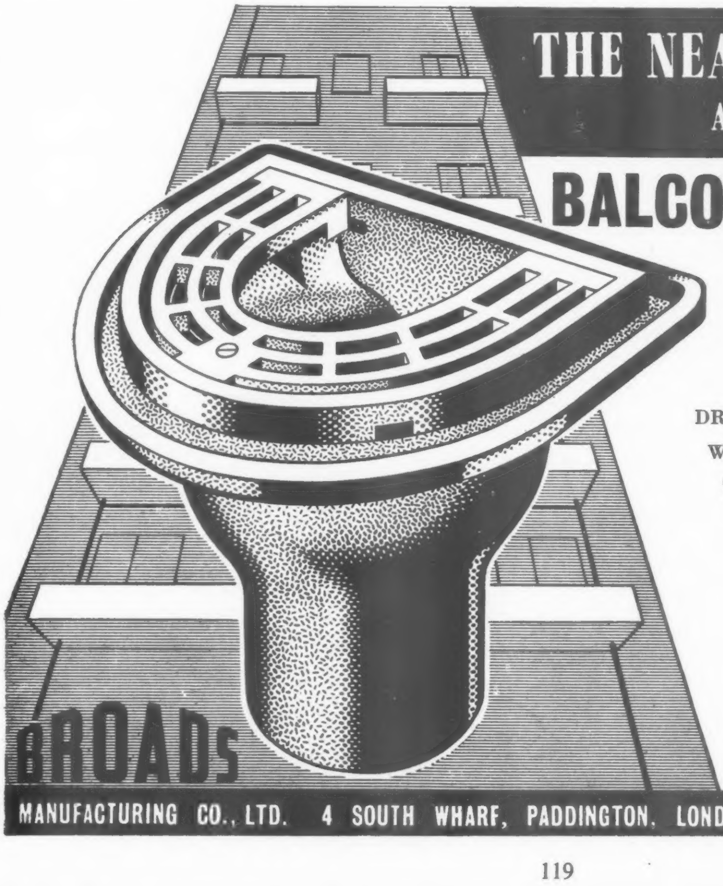

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*Replies to Box Numbers should be addressed care of "The Architects' Journal," at the address given above.*

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Warwick. 2236

### BOROUGH OF HESTON AND ISLEWORTH

Applications are invited for the permanent appointment of a SENIOR ARCHITECTURAL ASSISTANT in the Borough Engineer and Surveyor's Department. Salary in accordance with Special Grade (£750 × £40—£1,030 per annum plus London weighting).

Applicants must have had good experience in architectural design and building work under construction, and, other things being equal, preference will be given to applicants who have passed the examination for Associate R.I.B.A, or hold a University Degree or Diploma in architecture accepted by that Institute.

The Council is unable to assist the successful candidate with housing accommodation.

Applications are to be submitted by 22nd December, 1958, on forms to be obtained from and returned to the Borough Engineer and Surveyor, 88, Lampton Road, Hounslow.

D. MATHIESON,
*Town Clerk.*

Town Hall,
Hounslow, Middlesex. 2222

### LINDSEY (LINCOLNSHIRE) COUNTY COUNCIL
### ARCHITECT'S DEPARTMENT

Vacancies on the permanent staff for TWO SENIOR ASSISTANT ARCHITECTS, Special Grade, £750—£1,030. Applicants should be A.R.I.B.A. and in special circumstances consideration will be given to starting salary above minimum of the grade.

N.J.C. Condition of Service. Canvassing will disqualify. Candidates must disclose in writing whether to their knowledge they are related to any Member or Senior Officer of the Council.

Applications giving age, qualifications, experience, present post and salary, and the names of at least two persons to whom reference can be made, to be sent not later than Monday, 15th December, 1958, to the County Architect, County Offices, Lincoln. 2209

### CWMBRAN DEVELOPMENT CORPORATION
### APPOINTMENT OF TWO ASSISTANT ARCHITECTS

Applications are invited for the above superannuable posts in my Department in the salary range £844 × £37—£1,029 with a commencing salary according to qualifications and experience.

Candidates should be Associates of the R.I.B.A. with suitable office experience and should have had good experience in House Design, Construction and Layout.

Housing accommodation will be made available in suitable cases or otherwise lodging expenses in accordance with the Corporation's scale will be paid to married men for a limited period.

Applications stating age, experience, details of present and former employment (together with applicable salaries) and the names and addresses of two referees must reach the undersigned by first post on Monday, 22nd December, 1958.

J. C. P. WEST, A.R.I.B.A., M.T.P.I.,
*Chief Architect.*

Victoria Street,
Cwmbran,
Mon. 2199

### LONDON COUNTY COUNCIL
### ARCHITECT'S DEPARTMENT

Vacancies for (1).—**ARCHITECT/PLANNERS.** Tasks include three-dimensional planning within London's eight major comprehensive development areas (including Stepney/Poplar, the South Bank and Elephant and Castle) and other redevelopment areas. Work includes preparation of comprehensive lay-outs for all important areas of new development throughout County, including areas to be redeveloped in connection with road improvements.

(2).—**TOWN PLANNING ASSISTANTS.** Duties include investigation of development proposals, surveys, report writing, preparation of data for Public Inquiries.

Starting salaries in each case up to £860 according to experience and qualifications. Application forms and particulars from Hubert Bennett, F.R.I.B.A., Architect to Council (EK/51/58), County Hall, London, S.E.1. (2167.) 1950

### SKIPTON URBAN DISTRICT COUNCIL
### ARCHITECTURAL ASSISTANT

Salary within Special Scale (£750—£1,030) according to qualifications and experience.

The appointment is an established post for Capital Works (Houses, Shops, Flats, Municipal Buildings), subject to a month's notice on either side.

House available.

Five-day week in operation.

Applications, stating age, qualifications, present salary, experience and names of two referees to the Engineer and Surveyor, Town Hall, Skipton, by 22nd December, 1958. 2215

### ISLE OF MAN LOCAL GOVERNMENT BOARD
### ARCHITECT AND PLANNING OFFICER

Applications are invited for the post of Architect and Planning Officer to the Isle of Man Local Government Board. Commencing salary £1,200 per annum.

Applicants must be Fellows or Associates of the Royal Institute of British Architects and must either hold a diploma recognized by the Town Planning Institute or have had experience in Town and Country Planning.

The post is pensionable on a contributory basis under the Isle of Man Superannuation (Officers of Boards) Scheme 1934, as amended.

Applications stating age, qualifications, experience and particulars of previous appointments held, and accompanied by copies of not more than three recent testimonials should be enclosed in an envelope endorsed "Architect and Planning Officer" in the top left hand corner, and forwarded to the undersigned so as to reach him not later than 5 p.m. on Wednesday, the 17th day of December, 1958.

This 25th day of November, 1958.

W. H. KARRAN,
*Secretary.*

6, Mount Havelock,
Douglas,
Isle of Man. 2207

### BOROUGH OF BILSTON
### HOUSING DIRECTOR'S DEPARTMENT

Applications are invited for the following appointments in the Housing Director's Department:—

(*a*) ARCHITECTURAL ASSISTANT, A.P.T. Grade II, £725—£845.

(*b*) QUANTITY SURVEYOR, A.P.T. Grade III, £845—£1,025.

Applicants for appointment (*a*) should be experienced in Housing and Administration of Building Contracts.

Applicants for appointment (*b*) should preferably be members of the R.I.C.S. and have had experience in the preparation of Bills of Quantities for Municipal Housing, including flats and site works.

The appointments will be subject to the National Scheme of Conditions of Service, a medical examination, and the Local Government Superannuation Acts, 1937 and 1953.

Housing accommodation will be made available if required.

Applications, stating age, qualifications and experience, together with two recent testimonials, should be sent to the Housing Director, Municipal Buildings, Hall Street, Bilston, not later than the 20th December, 1958.

A. M. WILLIAMS,
*Town Clerk.*

Town Hall,
Bilston.
29th November, 1958. 2292

### BEESTON AND STAPLEFORD URBAN DISTRICT COUNCIL
### ARCHITECTURAL ASSISTANTS

Applications are invited for the following posts:—

ARCHITECTURAL ASSISTANT, A.P.T. Special Grade, £750 × £40—£1,030.

JUNIOR ASSISTANT, A.P.T. I, £575—£725. Commencing salary according to qualifications and experience.

Applications, accompanied by the names and addresses of two referees, should be forwarded to the Surveyor, Town Hall, Beeston, Nottingham, as soon as possible.

H. D. JEFFRIES,
*Clerk of the Council.*
2294

### METROPOLITAN BOROUGH OF HAMPSTEAD

Require an ARCHITECTURAL ASSISTANT (temporary) in the Housing Architect's Department.

Grade A.P.T. I-II or Special (£575—£725; £725—£845; £750—£1,030; plus London weighting). Commencing salary according to qualifications and experience. (Grade I-II—Intermediate R.I.B.A.; Special—Final R.I.B.A.)

Applications, giving training, experience, previous appointments and the names of three referees, to the Town Clerk (AJ), Town Hall, Haverstock Hill, N.W.3, by the 19th December, 1958. No housing provided. 2283

### CITY OF LEEDS
### CITY ARCHITECT'S DEPARTMENT

Post Grade Scale
BUILDER'S CLERK A.P.T. I £575—£725

The officer appointed will be employed within the Quantity Surveying Section dealing with the adjustment of claims for the rise and fall in the rates of labour and prices in building materials. Previous experience in work of this nature is desirable.

LANDSCAPE SUPERVISOR A.P.T. 1 £575—£725

Candidates should have had surveying experience and a knowledge of landscape work preferably in the setting out of school playing fields. Some horticultural experience or knowledge is also desirable.

The payment of salary increments will be subject to satisfactory service and will be granted normally with effect from the 1st April following the completion of six months' service.

The appointments are subject to the Local Government Superannuation Acts, 1937-1953, and the successful applicants will be required to pass a medical examination.

Application forms may be obtained from the City Architect, Priestley House, Quarry Hill, Leeds, 9, to whom they should be returned together with copies of three recent testimonials, by 12 noon on Saturday, 20th December, 1958.

Canvassing in any form, either directly or indirectly, will be a disqualification.

R. A. H. LIVETT,
*City Architect.*

Priestley House,
Quarry Hill,
Leeds, 9.
27th November, 1958. 229

### COUNTY BOROUGH OF DEWSBURY
### BOROUGH ARCHITECT AND BUILDINGS SURVEYOR'S DEPARTMENT

Applications are invited for the following appointments:—

(*a*) PRINCIPAL ASSISTANT ARCHITECT (Education Section)—Special Grade.

(*b*) ASSISTANT QUANTITY SURVEYOR—Special Grade.

(*c*) QUANTITY SURVEYING ASSISTANT—A.P.T. Grade I.

The commencing salaries will be fixed within the scope of the grades stated according to qualifications and experience, *i.e.* Special Grade £750—£1,030 p.a. and A.P.T. Grade I £575—£725 p.a. Applicants for the appointment (*a*) must have passed the final examination of the R.I.B.A. and those for appointment (*b*) the final examination of the R.I.C.S. The successful applicant for appointment (*a*) will be responsible for the design, construction and supervision of new schools.

Housing accommodation may be made available if required.

The appointments will be subject to one month's notice on either side and to the provisions of the Local Government Superannuation Acts.

Applications, stating age, education, qualifications, full particulars of training and experience, together with copies of two recent testimonials, should be sent to the undersigned not later than Monday, 22nd December, 1958, in envelopes endorsed "Appointment of . . . ."

A. NORMAN JAMES,
*Town Clerk.*

Town Hall,
Dewsbury.
28th November, 1958. 227

### DURHAM COUNTY COUNCIL
### PLANNING DEPARTMENT

ASSISTANT FOR DESIGN SECTION—salary £750 to £1,030. Applicants must be Associates of the Royal Institute of British Architects, or Associate Members of the Town Planning Institute with architectural experience.

Housing available at Peterlee and Newton Aycliffe, 12 miles from Durham. Forms and further particulars from County Planning Officer, 10, Church Street, Durham. Closing date 23rd December, 1958. Canvassing members of the Council is prohibited.

J. K. HOPE,
*Clerk of the County Council.*
228

### METROPOLITAN BOROUGH OF CAMBERWELL
### ASSISTANT ARCHITECTS
### (BOROUGH ARCHITECT'S DEPARTMENT)

The Council have vacancies for Assistant Architects within a salary range of £605 to £1,055 inclusive of £30 London weighting (grades A.P.T. I or II or III of the National Scales). The work of the Department includes design and construction of public buildings, housing estates, including multi-storey construction. Application form from Town Clerk, Town Hall, S.E.5. Closing date Monday, 22nd December, 1958. 2220

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### CITY OF DURHAM
### ARCHITECTURAL ASSISTANT

Applications are invited for the above appointment from suitably qualified candidates at a salary within the Special Scale (£750—£1,030 per annum). Housing accommodation if required. Contribution made towards removal expenses. Appointment superannuated and subject to one month's notice on either side, to passing of medical examination, and to N.J.C. Scheme of Conditions of Service. Canvassing disqualifies. Applicants must disclose relationship to members or senior officers of the Council. Applications, stating age, training, present and previous appointments, experience and names and addresses of two persons to whom reference may be made, to be delivered to the undersigned before 17th December, 1958.

D. B. MARTIN-JONES,
*Town Clerk.*

32, Claypath,
Durham. 2291

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### CITY OF WAKEFIELD
### CHIEF ASSISTANT ARCHITECT
### GRADE A.P.T. IV (£1,025 × £50—£1,175)

Applications are invited for the above superannuable appointment in the City Engineer's Department from Registered Architects who have had extensive experience in Local Authority building work.

The Corporation has a wide variety of projects in its Capital Expenditure Programme including Houses and Flats, Schools, Crematorium, Community Centre, Health Centres and other buildings, and the post offers excellent opportunities in organisation as well as design.

Applications, stating age, training, qualifications, experience, present and past appointments with salaries, together with names of three referees, to be sent to the City Engineer, Town Hall, Wakefield, by the 30th December, 1958.

The point of commencement on the grade will depend on qualification and experience.

Housing accommodation provided. 2284

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### SOUTHERN ELECTRICITY BOARD
### DRAUGHTSMAN (CIVIL ENGINEERING)

Sub-Area Engineering Department, No. 1 (Southall) Sub-Area, located at Waterloo Road, Uxbridge. Salary N.J.B. Schedule "D," Grade 6 (£635—£755 per annum, inclusive of London allowance). N.J.B. Conditions of Service.

Applicants must have had training and experience in building construction and the design of steelwork and reinforced concrete structures.

The successful candidate will be required to contribute to the Electricity Supply (Staff) Superannuation Scheme, if eligible.

Applications on forms obtainable from the Sub-Area Secretary, 2/6, Windmill Lane, Southall, Middlesex, and returned to him, quoting Z.958, not later than December 22, 1958. 2289

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### PEMBROKESHIRE COUNTY COUNCIL
### COUNTY ARCHITECT'S DEPARTMENT
### APPOINTMENT OF ASSISTANT ARCHITECTS GRADE III A.P. & T. DIVISION (£845 to £1,025 p.a.)

Applications are invited for the above mentioned established posts. Applicants must be members of the R.I.B.A. by examination or have equivalent academic qualifications with experience of contemporary architecture and structural design.

The appointment will be subject to the National Scheme of Conditions of Service, the Local Government Superannuation Act and a satisfactory medical examination.

Forms of application can be obtained from Lt.-Col. Walter Barrett, M.B.E., A.R.I.B.A., County Architect, County Offices, Haverfordwest, and should be returned, duly completed, to the undersigned not later than December 27th, 1958.

H. LOUIS UNDERWOOD,
*Clerk of the County Council.*

County Offices,
Haverfordwest.
1st December, 1958. 2265

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### BOROUGH OF STOCKTON-ON-TEES
### BOROUGH ARCHITECT'S DEPARTMENT

Applications are invited for the appointment of ASSISTANT ARCHITECT at a salary of N.J.C. Special Grade (£750 × £40—£1,030).

Forms of application from the Borough Architect, 28, The Square, Stockton-on-Tees, to be returned not later than the 20th December, 1958.

Housing accommodation will be available for married applicants.

JOHN B. HAWORTH,
*Town Clerk.*

Barclays Bank Chambers,
49, High Street,
Stockton-on-Tees. 2270

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### THE UNIVERSITY OF SOUTHAMPTON

CLERK OF WORKS required for supervision of large new building projects. Temporary post, likely to extend for two years and possibly longer. Experience in reinforced concrete construction and electrical and mechanical services desirable. Salary £900 per annum. Applications, in writing, giving age, details of experience, and names of two referees, should be sent to the Secretary and Registrar, The University, Southampton, by 15th December, 1958. 2274

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**HOLLAND COUNTY COUNCIL** invite applications for the following appointments:—

(*a*) ASSISTANT QUANTITY SURVEYOR—Grade A.P.T. IV, £1,025—£1,175 p.a.
(*b*) QUANTITY SURVEYING ASSISTANT—Grade A.P.T. II, £725—£845 p.a.
(*c*) ARCHITECTURAL ASSISTANT—Special Grade, £750—£1,030 p.a. or Grade A.P.T. III, £845—£1,025 p.a. (according to qualifications).

The appointments will be subject to the provisions of the Local Government Superannuation Acts, the N.J.C. Scheme of Conditions of Service, and a medical examination.

The County Council would consider making a contribution towards the cost of removals.

Forms, obtainable from the County Architect, should be returned to the Clerk of the County Council, County Hall, Boston, Lincs., by 31st December, 1958. 2267

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### HAMPSHIRE COUNTY COUNCIL

PLANNING ASSISTANT, A.P.T. II (£725—£845) required for pensionable post in the County Planning Department Headquarters in Winchester. Duties include survey, statistical and other work in connection with the preparation and review of Development Plan maps. Candidates should preferably have passed the Intermediate examination of the Town Planning Institute or of a related professional body and have had experience with a Local Planning Authority. In approved cases the County Council assist with removal and other expenses.

Applications, stating age, education, qualifications and experience, together with a copy of one testimonial and the names of two referees, should reach the Clerk of the County Council, The Castle, Winchester, by 22nd December. 2239

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### BOROUGH OF MAIDENHEAD
### JUNIOR ARCHITECTURAL ASSISTANT

Applications invited for above appointment. Salary A.P.T. Grades I-II. Housing accommodation available. Conditions from Town Clerk, Guildhall, Maidenhead. Closing date 6th January, 1959. 2295

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For sashes up to 50 lb. specify No. 55 chain with the 1¾ in. pulley.

For sashes up to 70 lb. specify No. 44 chain with the 2 in. pulley.

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*The dependable system of sash-hanging since 1900 and still the best in the world.*

### COUNTY BOROUGH OF WOLVERHAMPTON

ARCHITECTURAL ASSISTANT required. Grade A.P.T. I, salary £575 × £30 to £725 p.a.

The Authority has an interesting and varied programme of building work offering excellent opportunities for all-round experience and for doing good class work in a progressive office.

Applications, stating age, present salary, present and previous appointments, details of education, training and experience, naming two referees, to the Borough Engineer, Town Hall, Wolverhampton, in envelope endorsed "Architectural Assistant," by Monday, 22nd December, 1958. 2254

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**LAMBETH METROPOLITAN BOROUGH COUNCIL** requires **ARCHITECTURAL ASSISTANTS** in housing department. Salary: £725—£845 p.a., plus £20/£30 London weighting (A.P.T. II). Applicants must have passed Intermediate R.I.B.A. or equivalent and have two or three years' practical experience.

Work of department includes design and construction of housing estates, including multi-storey buildings, and conversion and improvement of older-type residential property. No housing accommodation provided. Application form from Town Clerk, Town Hall, Brixton Hill, S.W.2. Closing date: 20th December. 2268

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### GOVERNMENT OF NORTHERN NIGERIA
### ARCHITECT, MINISTRY OF WORKS

To prepare and supervise building contracts and maintenance works programmes or to prepare sketch plans and working drawings of a variety of public buildings.

Contract appointment. Salary range £1,170—£1,824 p.a. Gratuity £37 10s. for each completed three months' resident service.

Free passages for officer and cost of passages for wife and children up to maximum of two adult passages. Allowances of £120 to £288 p.a. payable for maximum of three children under 18 years. Government quarters, if available, at low rent. Generous leave. Low income tax.

Candidates under 45 years of age must be A.R.I.B.A. with wide general experience.

Write Director of Recruitment, Colonial Office, London, S.W.1, giving age, qualifications and experience, quoting BCD. 112/408/07. 2260

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### BOROUGH OF STRATFORD-UPON-AVON
### APPOINTMENT OF SENIOR ASSISTANT ARCHITECT

Applications are invited for the above appointment at a salary within the grade recommended for special classes of officers, *i.e.* £750 × £40—£1,030 per annum. Candidates should be suitably qualified and have had at least five years' experience, including the period spent on theoretical training.

The appointment will be subject to the National Scheme of Conditions of Service of Local Government Officers, to the provisions of the Local Government Superannuation Acts, and to the successful candidate passing satisfactorily a medical examination. The appointment will be terminable by one month's notice on either side.

The Council will, if necessary, be prepared to consider the provision of housing accommodation.

Forms of application may be obtained from the undersigned, to whom completed forms should be returned not later than Monday, 22nd December, 1958.

P. C. SMART, M.I.C.E.,
*Borough Engineer & Surveyor.*

Municipal Offices,
Stratford-upon-Avon.
28th November, 1958. 2243

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### HORNCHURCH URBAN DISTRICT COUNCIL
### ENGINEER AND SURVEYOR'S DEPARTMENT

ARCHITECTURAL ASSISTANT, Grade A.P.T. II (£725—£845).

Applications are invited for the above permanent appointment at a salary in accordance with Grade A.P.T. II (£725—£845). In addition, an amount equivalent to that of London weighting will be paid.

Candidates should be good draughtsmen with a special knowledge of construction and experience in the preparation of working drawings. They must have passed the R.I.B.A. Intermediate examination and be studying for the final.

The appointment will be subject to the Local Government Superannuation Acts, the National Scheme of Conditions of Service and the passing of a medical examination.

Housing accommodation will be available, if required.

Application forms may be obtained from and must be returned to the undersigned not later than Saturday, 27th December, 1958.

P. L. COX,
*Clerk of the Council.*

Council Offices,
Billet Lane,
Hornchurch,
Essex. 2256

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### THE UNIVERSITY OF LIVERPOOL

Applications are invited for the post of **ASSISTANT LECTURER** or **LECTURER** in the Department of Building Science at an initial salary within the range £700—£1.250 per annum, according to age, qualifications and experience. Applicants should have an Honours degree in Architecture with special knowledge of the application of scientific research to building construction.

Applications, stating age, academic qualifications and experience, together with the names of three referees, should be received not later than 10th January, 1959, by the Registrar, from whom further particulars of the conditions of appointment may be obtained. 2271

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### COUNTY BOROUGH OF TYNEMOUTH
### BOROUGH SURVEYOR'S DEPARTMENT

Applications are invited for the undermentioned posts in the above Department:—

1. SENIOR ASSISTANT ENGINEER—Special Scale, £750—£1,030. (Point of entry to be according to qualifications and experience.)
2. JUNIOR ASSISTANT ENGINEERS—A.P.T. I, £575—£725.
3. ASSISTANT ARCHITECT—Special Scale, £750—£1,030. (Point of entry to be according to qualifications and experience.)
4. ARCHITECT LEARNER—General or Higher General Division, £200—£560.

Application forms, together with Conditions of Appointment, can be obtained from D. M. O'Herlihy, Esq., O.B.E., B.Sc. (Eng.), M.I.C.E., 16, Northumberland Square, North Shields, to whom they should be returned by 31st December.

In the case of Appointment 1, the Corporation may be prepared to assist in the provision of housing accommodation.

FRED G. EGNER.

GAH/JLR.
1st December, 1958. 2272

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### CITY AND COUNTY OF NEWCASTLE UPON TYNE
### CITY ARCHITECT'S DEPARTMENT

The City Architect will be pleased to receive applications for the following vacancies in the NEW TOWN HALL SECTION of the Department:—

(*i*) PRINCIPAL ASSISTANT ARCHITECT, A.P.T. Division Grade V (£1,175—£1,325).

(*ii*) SENIOR ASSISTANT ARCHITECTS, Special Class (£750—£1,030).

The post of Principal Assistant Architect will involve day to day responsibility for the development of the design and the preparation of working drawings for this large scheme. A high standard of design ability and an appreciation of and experience in good quality building work is essential.

Application forms and full particulars may be obtained from George Kenyon, A.R.I.B.A., A.M.T.P.I., City Architect, 18, Cloth Market, Newcastle upon Tyne, 1. Applicants must state the post applied for when requesting particulars.

Closing date for receipt of applications: Saturday, 27th December, 1958.

JOHN ATKINSON,
*Town Clerk.*

Town Hall,
Newcastle upon Tyne, 1.
2nd December, 1958. 2273

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### BOROUGH OF LYTHAM ST. ANNES
### APPOINTMENT OF GENERAL ARCHITECTURAL ASSISTANT

Applications are invited for the appointment of a General Architectural Assistant at a salary in accordance with Grade A.P.T. II (£725 × £30—£845).

Applicants must have had good experience in architectural design and building work under construction and should have passed the Intermediate examination of the Royal Institute of British Architects.

The Council will be prepared to assist with housing accommodation if necessary.

The appointment will be subject to the provisions of the Local Government Superannuation Acts, and to the passing of a medical examination.

Applications, stating age, education and details of experience, together with the names of two referees, should be forwarded to the undersigned not later than the 17th December, 1958.

R. A. CORK,
*Town Clerk.*

Town Hall,
Lytham St. Annes. 2275

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### KIRKBY URBAN DISTRICT COUNCIL
### APPOINTMENT OF CHIEF ARCHITECTURAL ASSISTANT

Applications are invited for this appointment in the Engineer and Surveyor's Department of the newly formed Authority. The post offers scope for wide experience in all forms of municipal building and civic design. The person appointed will be head of the Architectural section of the department, and should have passed the final R.I.B.A. examination or equivalent.

Salary within A.P.T. Grade IV according to qualifications and experience.

Applications, setting out full details of age, experience, qualifications, past and present appointments, present salary, etc., and the names of two referees, should be sent to me in envelope appropriately endorsed, not later than 31st December, 1958. Canvassing disqualifies.

W. BYRON,
*Clerk of the Council.*

Kirkby Hall,
Kirkby,
Nr. Liverpool. 2248

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### BOROUGH OF MORECAMBE AND HEYSHAM
### APPOINTMENT OF ASSISTANT ARCHITECT/QUANTITY SURVEYOR

Applications are invited for the above appointment in the Borough Engineer and Surveyor's Department at a salary of £575—£725 per annum (A.P.T. I).

Further details and application form may be obtained from the Borough Engineer and Surveyor, Town Hall, Morecambe and Heysham.

Closing date, Monday, 29th December, 1958.

Canvassing will disqualify.

ROGER ROSE,
*Town Clerk.*
2264

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### CITY OF WAKEFIELD
### CITY ENGINEER'S DEPARTMENT

Applications are invited for the following:—

(*a*) SENIOR ASSISTANT ARCHITECTS, Special Grade (£750 × £40—£1,030).

(*b*) SENIOR ASSISTANT ENGINEERS, Special Grade (£750 × £40—£1,030).

(*c*) ENGINEERING ASSISTANTS, Grade A.P.T. I (£575 × £30—£725).

Applicants for (*a*) must be A.R.I.B.A., for (*b*) must hold the Testamur of the Inst. Mun. E., or A.M.I.C.E., and for (*c*) must have completed a recognised period of training.

Point of commencement on the grades will depend on qualification and experience.

Applications, stating age, training, qualifications and experience, and giving the names of two referees, to be sent to the City Engineer, Town Hall, Wakefield, by the 22nd December, 1958.

All appointments are superannuable and housing accommodation will be considered for the senior posts. 2255

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### BOROUGH OF EALING

ARCHITECTURAL ASSISTANT, A.P.T. IV, £1,055—£1,205 inclusive.

Full particulars and application form from Borough Surveyor, Town Hall, Ealing, W.5. Closing date 29th December, 1958.

E. J. COPE-BROWN,
*Town Clerk.*

Town Hall,
Ealing, W.5. 2279

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## Architectural Appointments Vacant

*4 lines or under, 9s. 6d.; each additional line, 2s. 6d. Box Number, including forwarding replies, 2s. extra*

**INTERMEDIATE ASSISTANT with office experience required London Office, varied work. Preference given to applicants actively studying for Final. Study time allowed by arrangement. Box 1825.**

**A COMPETENT ASSISTANT, with several years' experience and capable of working with little supervision, required in Branch Office, Birmingham, engaged on a varied and interesting programme of commercial projects. Applications, giving full particulars and salary required, to: G. S. Hay, A.R.I.B.A., Chief Architect, Co-operative Wholesale Society, Ltd., 1, Balloon Street, Manchester, 4.** 1874

ARCHITECTS, busy Birmingham office near Five Ways, requires SENIOR ASSISTANT ARCHITECT. Must be experienced and good draughtsman. Interesting and varied work. Salary according to qualifications. Excellent prospects. Please write stating full details. Box 2122.

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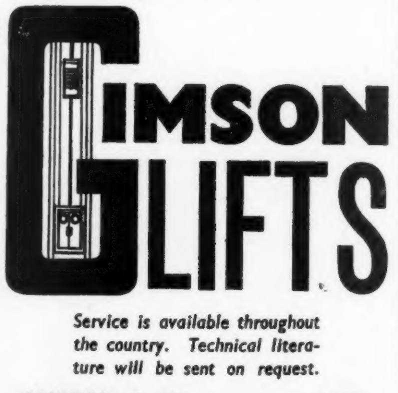

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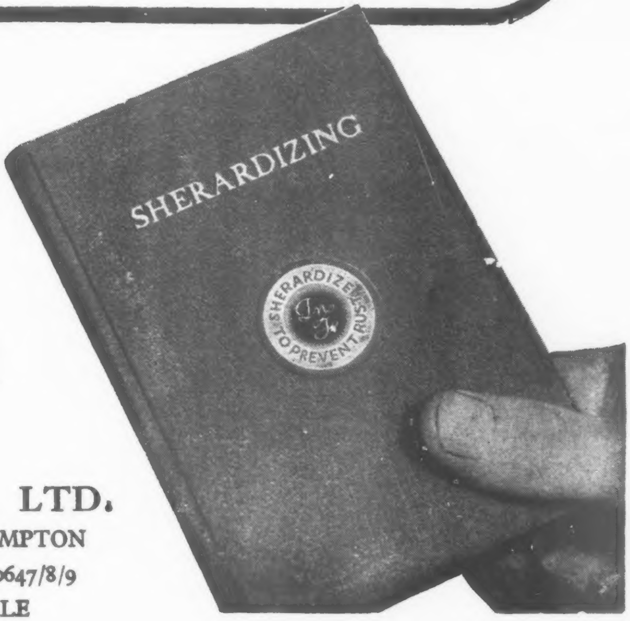

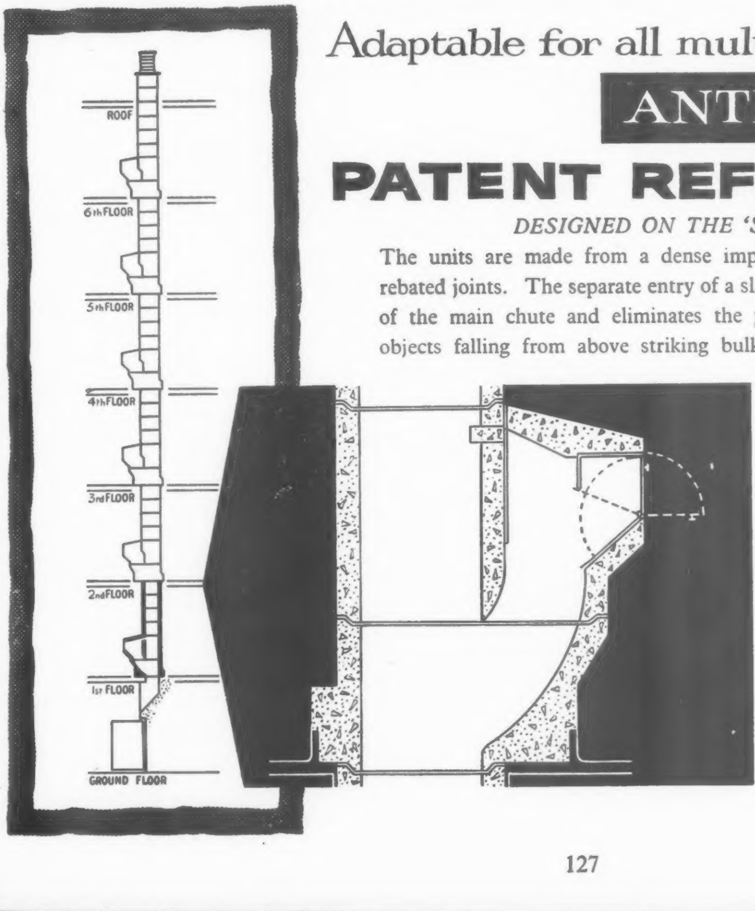

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